

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA

TAMMY KITZMILLER; BRYAN AND
CHRISTY REHM; DEBORAH FENIMORE
AND JOEL LIEB; STEVEN STOUGH;
BETH EVELAND; CYNTHIA SNEATH;
JULIE SMITH; AND ARALENE
("BARRIE") D. AND FREDERICK B.
CALLAHAN,

Plaintiffs

vs.

DOVER AREA SCHOOL DISTRICT;
DOVER AREA SCHOOL DISTRICT
BOARD OF DIRECTORS,

Defendants

CIVIL ACTION

No. 4:04-cv-2688

(JUDGE JONES)

(Filed Electronically)

PLAINTIFFS' FINDINGS OF FACT AND CONCLUSIONS OF LAW

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. INTELLIGENT DESIGN IS A RELIGIOUS PROPOSITION.....	1
A. Intelligent Design Is a Classical Argument for the Existence of God.....	2
B. The Intelligent Design Movement Describes Intelligent Design As a Religious Argument.....	4
C. Intelligent Design Requires Supernatural Creation	8
D. Intelligent Design is a Form of Creationism.....	10
E. Intelligent Design is a Sectarian Religious Viewpoint.....	16
III. INTELLIGENT DESIGN IS NOT SCIENCE	17
A. Reliance on Supernatural Causation Removes Intelligent Design from the Realm of Science	18
B. Intelligent Design Relies on the Same Logically Flawed Argument that Doomed Creation Science	25
C. Irreducible Complexity Fails Even as a Purely Negative Argument Against Evolution.....	28
D. The “Positive Argument” for Design is Unscientific and Illogical	36
E. Intelligent Design’s Claims Against Evolution are Based on Discredited Science	41
F. <i>Of Pandas And People</i> Presents Discredited Science.....	45
G. Intelligent Design Has Not Produced Peer Reviewed Articles or Research 49	
H. Conclusion to Science Section.....	53
IV. THE DOVER SCHOOL BOARD SOUGHT TO PROMOTE CREATIONISM IN THE GUISE OF INTELLIGENT DESIGN AND DENIGRATE THE SCIENTIFIC THEORY OF EVOLUTION ON RELIGIOUS GROUNDS	53
A. The Parties.....	53
B. Bonsell’s and Buckingham’s Personal Religious Beliefs Conflict With the Theory of Evolution.....	57
C. Beginning in January 2002, Bonsell Repeatedly Expressed an Interest in Injecting Religion Into the Dover Schools	58
D. Fall 2003 – Bonsell Confronted the Teachers About Evolution	63
E. Early 2004 – Buckingham Contacted the Discovery Institute	67

F.	June 2003 to June 2004 – The Board Held Up the Purchase of the Biology Textbook Because of Its Treatment of Evolution.....	68
G.	June 2004 Board Meetings – Buckingham and Other Board Members Spoke Out in Favor of Teaching Creationism.....	69
H.	June 2004 Curriculum Committee Meeting – Creationism Morphed Into Intelligent Design.....	75
I.	Board Member Geesey Published a Letter to the York Sunday News Advocating the Teaching of Creationism.....	80
J.	July 2004 – Buckingham Contacted Richard Thompson of the Thomas More Law Center and Learned about the Creationist Textbook <i>Of Pandas and People</i>	81
K.	July 2004 – The Teachers and Baksa Reviewed the Sections of the 2004 Edition of Biology that Dealt With Evolution in Response to the Board’s Concerns	83
L.	August 2004 – Buckingham and Others Tried to Prevent Purchase of the Standard Biology Textbook.....	83
M.	August 26, 2004 – The Board’s Solicitor Warned the Board That It Could Lose a Lawsuit If It Pushes Intelligent Design Creationism.....	85
N.	August 30, 2004 – The Board Curriculum Committee Forced <i>Pandas</i> on the Teachers as a Reference Text	86
O.	Bonsell and Buckingham Secretly Arranged for Sixty Copies of <i>Pandas</i> to be Donated to the High School.....	88
P.	October 7, 2004 – The Board Curriculum Committee Drafted the Curriculum Change Without the Teachers Present to Object	90
Q.	October 18, 2004 – The Board Forced the Curriculum Change.....	92
R.	Assistant Superintendent Baksa Developed the Statement Read to Students to Suit the Board and the Teacher’s Refusal to Read It	101
S.	The Board Published a Newsletter Denigrating Evolution and Advocating Intelligent Design to the Entire Dover Community	104
T.	The Effect of the Board’s Actions on the Plaintiffs	106
U.	The Dover Community Perceives the Board As Having Acted to Promote Religion.....	109
V.	THE CLAIM THAT BOARD MEMBERS ACTED FOR THE PURPOSE OF IMPROVING SCIENCE EDUCATION IS A PRETEXT TO HIDE THE TRUE MOTIVE FOR CHANGING THE BIOLOGY CURRICULUM, WHICH WAS TO PROVIDE STUDENTS WITH A RELIGIOUS ALTERNATIVE TO THE THEORY OF EVOLUTION.....	114

Page

A.	The Two Board Members Most Directly Involved in the Change to the Biology Curriculum Did Not Testify Truthfully, Consistently, or Believably	114
B.	Other Witnesses for Defendants Also Failed to Testify Truthfully and Credibly	121
C.	Bonsell and Buckingham and the Board Members Who Joined With Them Acted for the Purpose of Offering Students a Religious Alternative to the Theory of Evolution.....	125
D.	Although the Defendants Claim to Have Acted for the Secular Purpose of Promoting Good Science Education, The Record Contains No Evidence That They Ever Had That Purpose	127
E.	Dover's Curriculum Change Does Not Improve Science Education	130
VI.	PROPOSED ULTIMATE FINDINGS OF FACT	139
VII.	PLAINTIFFS' PROPOSED CONCLUSIONS OF LAW.....	146

I. INTRODUCTION

Plaintiffs request that the Court adopt the following Findings of Fact and Conclusions of Law based on the evidence adduced at trial. Plaintiffs' detailed findings of fact are summarized in the ultimate findings of fact on pages 141-48. Legal authority and argument supporting the Conclusions of Law are set forth in the accompanying Memorandum of Law.

II. INTELLIGENT DESIGN IS A RELIGIOUS PROPOSITION

1. The evidence presented by plaintiffs at trial demonstrates that the concept of intelligent design and the book *Of Pandas and People* (P11), which are presented to Dover High School students in biology class are religious, and not scientific. Intelligent design is the same argument made in the early 19th Century by the Reverend William Paley for the existence of God, distinguished only by the intelligent-design movement's refusal, in some forums, to identify with specificity who the Designer is. Unrebutted expert testimony also established that the leaders of the intelligent-design movement, both individually, and collectively through the Discovery Institute's Center for Science and Culture (previously the Center for Renewal of Science and Culture), have defined intelligent design in overtly religious terms. The evidence also demonstrates that the book *Of Pandas and People* was written as a creationist text, and the authors merely switched labels for its creationist arguments after the United States Supreme Court found the teaching

of “creation science” in public schools to be unconstitutional. And *Pandas*’ arguments for design, and against evolution, are strikingly similar to those of its creation-science predecessor. There is substantial evidence even beyond all this that intelligent design is a form of creationism.

A. Intelligent Design Is a Classical Argument for the Existence of God

2. John Haught, a theologian who has written extensively on the subject of evolution and religion, testified as an expert for plaintiffs. He chaired the Department of Theology at Georgetown University, and authored thirteen books on the theological subjects. Three of those books deal specifically with the issues of evolution and religion. 9:4-5 (Haught).¹ He explained that the argument for intelligent design is not a new scientific argument, but rather an old religious argument for the existence of God. This argument traces back at least to Thomas Aquinas in the 13th century, who framed the argument as a syllogism: Wherever complex design exists, there must have been a designer; nature is complex; therefore nature must have had an intelligent designer. 9:1 (Haught). Dr. Haught testified that Aquinas was explicit that this intelligent designer “everyone understands to be God.” 9:7-8. The syllogism described by Dr. Haught is

¹ Trial testimony is formatted as follows: Volume: page (witness). Attached as Exhibit A is the Index Of Trial Transcript Volumes.

essentially the same argument for intelligent design presented by Professors Behe and Minnich, employing the phrase “purposeful arrangement of parts.”

3. Dr. Haught testified that this argument for the existence of God was advanced early in the 19th Century by Reverend Paley. 9:7-8. Defendants’ experts Behe and Minnich admitted that their argument for intelligent design based on “purposeful arrangement of parts” is the same one that Paley made for design. 23:72 (Behe); 38:44, 57 (Minnich). Professor Behe testified that Paley’s argument was scientific, not religious, but review of Paley’s essay clearly demonstrates that Paley was arguing for the existence of God. P751, at 141-42.

4. The only apparent difference between the argument made by Paley, and the argument for intelligent design, as expressed by Behe and Minnich, is that intelligent design’s “official position” does not acknowledge that the designer is God. However, this seems to be a tactical position only. As Dr. Haught testified, anyone familiar with western religious thought would immediately make the association that the unnamed designer is God. 9:9. The description of the designer in *Pandas* as a “master intellect” (P11, at 85) suggests a supernatural deity, not any intelligent actor known to exist in the natural world. Professors Behe and Minnich acknowledged that it was their personal view that the designer is God, and Professor Minnich testified that he understands many leading advocates of intelligent design to believe that the designer is God. 21:90 (Behe);

38:36-38 (Minnich). No other serious alternative has been suggested by the intelligent-design movement, including by defendants' expert witnesses. While proponents occasionally suggest that the designer could be a space alien or a time-traveling cell biologist, 20:102-103 (Behe), these incredible suggestions are not taken seriously, ever by their sponsors.

5. The religious nature of intelligent design is made explicit in *Pandas*, when it asks rhetorically, "what kind of intelligent agent was it [the designer], and answers: "On its own science cannot answer this question. It must leave it to *religion* and philosophy." P11 at 7 (emphasis added); 9:13-14 (Haught). This is an explicit concession that the intelligent designer is outside nature and science, and since the question is left to *religion*, must refer to God. 38:98 (Minnich).

B. The Intelligent Design Movement Describes Intelligent Design As a Religious Argument

6. The writings of leading intelligent-design proponents similarly reveal that the designer postulated by their argument is the God of Christianity. This was demonstrated by the testimony of Dr. Barbara Forrest, and exhibits admitted during her testimony, including her book *Creationism's Trojan Horse* P630. Dr. Forrest has exhaustively researched and chronicled the history of intelligent design creationism in *Creationism's Trojan Horse*, and other writings, and for her testimony in this case. 10:15-19 (Forrest). It would be impracticable to

set forth all the statements by intelligent-design leaders testified about by Dr. Forrest that demonstrate intelligent design's religious, philosophical, and cultural content. The following are representative:

(a) Phillip Johnson has written that "theistic realism" or "mere creation" are the defining concepts of the intelligent design movement. This means "that God is objectively real as Creator and recorded in the biological evidence." 10:80-81 (Forrest); P328.

(b) Phillip Johnson states that the "Darwinian theory of evolution contradicts not just the Book of Genesis, but every word in the Bible from beginning to end. It contradicts the idea that we are here because a creator brought about our existence for a purpose." 11:16-17 (Forrest), P524.

(c) Intelligent design proponents Johnson, William Dembski, and Charles Thaxton, one of the editors of *Pandas*, situate intelligent design in the Book of John in the New Testament of the Bible, which begins, "In the Beginning was the Word, and the Word was God." 11:18-20, 54-55 (Forrest); P524; P355; P357. Professor Dembski has written that, "Indeed, intelligent design is just the Logos theology of John's Gospel restated in the idiom of information theory." 11:55 (Forrest); P357.

(d) Dembski has written that ID is a "ground clearing operation" to allow Christianity to receive serious consideration, and "Christ is

never an addendum to a scientific theory but always a completion.” 11:50-53 (Forrest), P386; P390.

7. Defendants’ lead expert Michael Behe testified at trial that intelligent design is only a scientific project for him, not religious. However, evidence was introduced contradicting this claim. Professor Behe has written articles arguing that intelligent design requires “science [to] make room for religion” and helps Christians spread the “Good News” – i.e., the Christian Gospel. P723; P726; 22:15-17 (Behe).

8. Most remarkably, Professor Behe claims that the plausibility of the argument for intelligent design depends on the extent to which one believes in the existence of God. P718, at 705. There is no evidence in the record that any other scientific proposition’s validity rests on belief in God, and the Court is aware of none. This assertion constitutes substantial evidence that in Professor Behe’s view, as with the intelligent-design leaders described above, intelligent design is a religious proposition, not a scientific one.

9. The religious nature of intelligent design is further established by the Wedge Document, which was developed by the Discovery Institute’s Center for Renewal of Science and Culture (“CRSC”). 11:26-48 (Forrest). The CRSC represents from an institutional standpoint the goals and objectives of the intelligent-design movement, much as the Institute for Creation Research did for

the earlier creationists discussed in *McLean v. Arkansas Board of Education*, 529 F. Supp. 1255 (D. Ark. 1982). 11:24-25, 46 (Forrest). Virtually all the leaders of the intelligent design movement are affiliated with the CRSC, including Professors Behe and Minnich. 11:46-47 (Forrest).

10. The Wedge Document states in its “Five Year Strategic Plan Summary” that the intelligent design movement’s goal is to replace science as currently practiced with “theistic and Christian science.” P140, at 6. Professor Behe’s book *Darwin’s Black Box* is mentioned prominently in this section of the document as having advanced this objective, an association that he has not demurred from in any way. *Id.*

11. The intelligent design movement’s “Governing Goals,” as posited in the Wedge Document, are to “defeat scientific materialism and its destructive moral, cultural, and political legacies” and “to replace materialistic explanations with the theistic understanding that nature and human beings are created by God.” P140, at 6. These are not scientific goals, but rather cultural and religious goals. Similar language is found throughout the document. 11:26-48 (Forrest), P140. In the Wedge Document, the CSRC expressly announces a program of Christian apologetics to promote intelligent design. P140.

C. Intelligent Design Requires Supernatural Creation

12. Intelligent design is religious because it involves a supernatural designer. The *Edwards* and *McLean* courts expressly found that this characteristic removed creationism from the realm of science and made it a religious proposition. *Edwards v. Aguillard*, 482 U.S. 578, 591-592 (1987); *McLean*, 529 F. Supp. at 1265-1266.

13. Leading intelligent design proponents have made clear that the designer is supernatural. Phillip Johnson, the law professor who developed intelligent design's Wedge Strategy, concluded that science must be redefined to include the supernatural if religious challenges to evolution are to get a hearing. 11:8-15 (Forrest); P429. According to intelligent design advocate Paul Nelson's history of the movement, Johnson argued that "[d]efinitions of science could be contrived to exclude any conclusion we dislike or to include any we favor." P429, at 3 (emphasis added).

14. William Dembski, a core leader of the intelligent-design movement, agrees that science is ruled by methodological naturalism and argues that this rule must be overturned if intelligent design is to prosper. 5:32-34 (Pennock). Dembski contends that "the scientific picture of the world championed since the Enlightenment is not just wrong, but massively wrong. Indeed, entire fields of inquiry, including especially the human sciences, will need to be

rethought from the ground up in terms of intelligent design.” 5:35 (Pennock); P341, at 224.

15. Professor Behe has also written that by intelligent design he means “not designed by the laws of nature,” and that it is “implausible that the designer is a natural entity.” P647, at 193; P718, at 696, 700. Professor Minnich testified that for intelligent design to be considered science, the ground rules of science have to be broadened so that supernatural causes can be considered. 38:97. Defendants’ expert Fuller testified that it is intelligent design’s project to change the ground rules of science to include the supernatural. 28:20-24; Fuller Dep. 115.²

16. *Pandas* makes clear that there are two kinds of causes, natural and intelligent, clearly indicating that intelligent causes are beyond nature. P11 at 6. Professor Haught, the only theologian to testify in this case, explained that in Western intellectual tradition, non-natural causes occupy a space reserved for ultimate religious explanations. 9:13-14. Robert Pennock, the scientific philosopher who testified for plaintiffs, concurred that because its basic proposition is that the features of the natural world are produced by a transcendent, immaterial, non-natural being, intelligent design is a religious proposition, regardless of whether that religious proposition is given a recognized religious label. 5:55-56

² All deposition testimony cited to was included in the Deposition Designations submitted to the court.

(Pennock). No expert testifying for defendants explained how the supernatural action suggested by intelligent design could be anything but an inherently religious proposition.

D. Intelligent Design is a Form of Creationism

17. The evidence demonstrates that intelligent design is simply a new label for the “creationism” or “creation science” that was promoted to public schools in the 1970s and 1980s, and which federal courts, including the Supreme Court in *Edwards*, found to be religious.

18. The most compelling, although far from the only, evidence supporting this finding is *Pandas*’ historical pedigree. *Pandas* is published by an organization called the Foundation for Thought and Ethics (FTE). Buell Dep. at 13. The FTE’s Articles of Incorporation and filings with the Internal Revenue Service describe it as a religious, Christian organization. P461; P28. The FTE’s President Jon Buell appeared before this Court on July 14, 2005 in support of the FTE’s petition to intervene, and denied that his organization actually had the mission set forth in the public, legally required filings that he had signed, blaming their contents on lawyers and accountants. July 14 2005 Tr. 83-85. This testimony was not credible, particularly in light of other documents created by Buell, including a fundraising letter (P566), Foundation newsletter (P633), and mission statement (P168A), all evidencing a clear evangelical-Christian agenda. The

fundraising letter prepared in 1995, described FTE's mission as addressing the "deep hostility to traditional Christian views and values" found in school curriculum. P568. Buell testified that this issue was particularly important for biology curriculum. Buell Dep. at 50. Buell appeared determined to hide or deny an obvious religious agenda, which seems to be a consistent practice and tactic in the intelligent-design movement.

19. *Pandas* was written by Dean Kenyon and Percival Davis, both acknowledged creationists. 10:102-08 (Forrest). Davis is the author of a creationist book called *The Case for Creation*. P344. He has never represented himself as being anything but a Young Earth Creationist. 10:104 (Forrest). Dean Kenyon is also an acknowledged creationist. In 1986, he submitted an affidavit in support of the defendants in the *Edwards* case. P418. In that affidavit he asserted that "creation science" is the "sole scientific alternative" to the theory of evolution. *Id.* ¶ D10. This is significant, because at or around the same time the affidavit was filed, Kenyon was writing *Pandas*. 10:8 (Forrest).

20. Nancy Pearcey contributed to the writing of *Pandas*. Pearcey is a Young Earth Creationist, who for many years edited the Bible Science Newsletter, which describes its mission as making the Biblical case for origins. 10:102-08 (Forrest); P634.

21. The published version of *Pandas* states that “[i]ntelligent design means that various forms of life began abruptly through an intelligent agency with their distinctive features already intact – fish with fins and scales, birds with feathers, beaks, and wings, etc.” P11, at 99-100. This was described by many witnesses for plaintiffs and defendants, including Scott Minnich and Steven Fuller, as “special creation” of kinds of animals, an inherently, religious and creationist concept. 28:85-86 (Fuller); Minnich Dep. at 34; 1:141-42 (Miller); 9:10 (Haught); 33:54-56 (Bonsell); 1/3/05 Nilsen Dep. at 100-01. Professor Behe’s assertion that this passage was merely a description of appearances in the fossil record is not logical. It is clear from review of pages of *Pandas* that the passage of 99-100 is not a description of the fossil record, but rather a conclusion about how life began, *based on an interpretation of the fossil record*. This is reinforced by the content of the drafts of *Pandas*, described below.

22. Plaintiffs’ claim that intelligent design is simply a new label for creationism, not a new concept, is supported by comparing the pre- and post-*Edwards*’ drafts of *Pandas*. Two important points emerge from this comparison: (1) the definition for creation science in early drafts is identical to the definition of intelligent design; (2) cognates of the word creation (creationism and creationist) are systematically replaced with intelligent design; and (3) the changes occurred

shortly after the Supreme Court held in *Edwards* that creation science is religious and cannot be taught in public-school-science classes.

23. *Pandas*' drafts prepared with working titles *Biology and Creation*, *Biology and Origins*, and *Of Pandas and People*, used the term "creation" pervasively as the proposition in competition with the theory of evolution. 10:108-128 (Forrest); P1; P560; 562; P565; P652. In fact, the term "creation" is defined in these drafts as "various forms of life began abruptly through an intelligent agency with their distinctive features already intact – fish with fins and scales, birds with feathers, beaks, and wings, etc.", the same way "intelligent design" is defined in the published versions. P560, at 210; P1, at 2-13; P562, at 2-14, 2015; P652, at 2-15; P6, at 99-100; P11, at 99-100; P8562. This evidence supports plaintiffs' argument that intelligent design is creationism re-labeled.

24. In the published version of *Pandas*, "intelligent design" replaces the word "creation" and its cognates throughout the book, without changing other content. 10:119-122 (Forrest); P856.3-856.4. The FTE had no scientific basis for changing terms. Thaxton Dep. at 72; Buell Dep. at 121.

25. The evidence demonstrates that the change from "creation" to "intelligent design" occurred sometime in 1987, after the Supreme Court's *Edwards* decision that teaching "creation science" in public schools is

unconstitutional. 10:122 (Forrest); P856.2. There was evidence that Buell was following the case closely, and recognized that a ruling against teaching “creation science” would adversely affect the market for his book. P350; July 14, 2005 Tr. 91-94. Based on all the evidence, the Court can draw the inference that FTE changed terminology because of the legal ruling.

26. It is not surprising that “intelligent design” means the same thing as “creationism.” “Design” does not fully describe the biological event advanced by intelligent design proponents. As Dr. Miller explained “the design had to be executed. It had to be created. It had to be put into physical form” 2:44. Defendants’ expert Scott Minnich agreed that the designer did not just design biological systems like the bacterial flagellum, it “made” or “built” or “created” the flagellum. 38:38-41. “Creation” is a much more apt term than intelligent design for the process advocated by the intelligent design movement.

27. The evidence described above demonstrates that intelligent design is a form of creationism, that *Pandas* is a creationist book, and that the Dover Area School Board and Dover Area School District are suggesting that students read a creationist book.

28. In addition, plaintiffs submitted substantial additional evidence that intelligent design is a form of creationism, and uses the same arguments as earlier arguments for creationism 16:79-81, 85-86, 105-07 (Padian); 5:9-15

(Pennock). Dr. Forrest testified and sponsored exhibits showing six arguments common to creationists. 10:140-48 (Forrest); P856.1-6. For example, creationists made the same argument that the complexity of the bacterial flagellum supported creationism as Professors Behe and Minnich now make for intelligent design. P853, P845; 37:155-156 (Minnich). The intelligent design movement openly welcomes adherents to creationism into its “Big Tent,” urging them to postpone biblical disputes like the age of the earth. 11:3-15 (Forrest); P429. Intelligent design advocate Mark Hartwig, who wrote a section of the second version of *Pandas*, described the leaders of the intelligent design movement as creationists. P350; 10:133-38 (Forrest). Also, defendants’ expert Steven Fuller admitted that intelligent design is a form of creationism. Fuller Dep. at 67.

29. Professors Behe and Minnich testified that intelligent design is not creationism, but their testimony on this subject was primarily by way of assertion only. They did not directly rebut the creationist history of *Pandas* or other evidence presented by plaintiffs showing the commonality between creationism and intelligent design. The only argument that defendants made to distinguish creationism from intelligent design was the assertion that the term “creationism” applies only to arguments based on the Book of Genesis, a young earth, and a catastrophic Noaich flood. But there was substantial evidence introduced that this is only one form of creationism, including the chart that was

distributed to the Board Curriculum Committee. P149, at 2. *See also* 10:129-32 (Forrest); P555, at 22-24 (draft summary chapter of *Pandas*, describing differing types of creationism). Kenyon's affidavit in the *Edwards*' case states that "[c]reation science does not include as essential parts the concept of catastrophism, a world-wide flood, a recent inception of the earth or life from nothingness (ex nihilo), the concept of kinds, or any concepts from Genesis or other religious texts." P418, ¶ D9. According to Kenyon, "[c]reation science means origin through abrupt appearance in complex form," which is virtually identical to the definition of "creation" found in the *Pandas* drafts, and the definition of intelligent design in the published versions. P418, ¶ 09. The affidavit demonstrates that "creationism" and "creation-science" are not as narrowly defined as suggested by defendants, and that intelligent design and creationism share essential elements and arguments.

E. Intelligent Design is a Sectarian Religious Viewpoint

30. Intelligent design is not only religious, but sectarian – as it entails an essentially biblical and specifically a Christian view of the world. 5:10-11 (Pennock); 9:15 (Haught); 11:25-27, 43-44, 49 (Forrest). This view of creationism is not accepted by many religious denominations. 5:111-112 (Pennock).

31. In fact, intelligent design is explicitly hostile to particular religious views. For example, it specifically rejects “theistic evolution” as a valid religious view. 5:111-112 (Pennock); 10:7 (Forrest).

32. Further, arguments used to support intelligent design, such as inferring design by an intelligent designer through knowledge concerning the motivation and methods used by humans to design things, are considered blasphemous by some people. 28:100-102 (Fuller). Teaching intelligent design forces students to confront theological questions in science class, including whether any intelligent designer even exists. 1:54-55 (Miller); 22:97-98 (Behe); 17:27 (Padian).

III. INTELLIGENT DESIGN IS NOT SCIENCE

33. Intelligent design is not science. It fails on three distinct levels, any one of which invalidates the proposition: a) by invoking and permitting supernatural causation, intelligent design violates the centuries-old ground rules of science; b) intelligent design, including its poster child argument, irreducible complexity, employs the same flawed and illogical, contrived dualism that doomed creation science in the 1980’s; and c) intelligent design’s negative attacks on evolution have been refuted by the scientific community. Furthermore, intelligent design has failed to gain acceptance in the scientific community, generate peer-reviewed publications, or been the subject of testing and research.

A. Reliance on Supernatural Causation Removes Intelligent Design from the Realm of Science

34. The word “science” derives from the Latin word *scientia*, which means knowledge. 1:58-59 (Miller). As distinguished from the social sciences like political and library science, the natural sciences include biology, chemistry, astronomy, physics. 1:59. References to “science” hereafter, unless otherwise noted, are to the natural sciences.

35. Since the scientific revolution of the 16th and 17th centuries, science has been limited to the search for natural causes to explain natural phenomena. 9:19-22 (Haught); 5:25-29 (Pennock); 1:62 (Miller). This revolution entailed the rejection of the appeal to authority, and by extension, revelation, in favor of empirical evidence. 5:28 (Pennock) (“That’s probably what’s most characteristic of the scientific revolution, rejecting appeal to authority and saying we will appeal just to the evidence, the empirical evidence.”). Consequently, since that time, science has been a discipline in which testability, rather than any ecclesiastical authority or philosophical coherence, has been the measure of a scientific idea’s worth. 9:21-22 (Haught); 1:63 (Miller).

36. Science has deliberately left out theological or “ultimate” explanations for the existence or characteristics of the natural world. 9:21 (Haught). Science does not consider issues of “meaning and purpose” in the world. 1:64, 87 (Miller).

37. Supernatural explanations are important and may have merit, but they are not part of science. 3:103 (Miller); 9:19-20 (Haught).

38. This self-imposed convention of science, which limits inquiry to testable, natural explanations about the natural world, is referred to by philosophers as “methodological naturalism.” 5:23, 29-30 (Pennock).

39. Methodological naturalism, also sometimes known as the scientific method, is a “ground rule” of science today. 1:59 (Miller); 5:8, 23 (Pennock). This “ground rule” of science requires scientists to seek explanations in the world around us based upon things we can observe, test, replicate and verify. 1:59-64, 2:41-43 (Miller); 5:23-30 (Pennock). Professor Minnich agrees that methodological naturalism is the current rule of science. 38:97.

40. The National Academy of Sciences (NAS) was recognized by experts for both sides as being the “most prestigious” scientific association in this country. 1:94 (“probably the most prestigious scientific association in the world”), 160-61 (Miller); 14:72 (Alters); 37:31 (Minnich). Accordingly, where appropriate, the Court cites to the NAS position.

41. NAS agrees that science is limited to empirical, observable and ultimately testable data: “Science is a particular way of knowing about the world. In science, explanations are restricted to those that can be inferred from the confirmable data – the results obtained through observations and experiments that

can be substantiated by other scientists. Anything that can be observed or measured is amenable to scientific investigation. Explanations that cannot be based on empirical evidence are not a part of science.” P649, at 27 (*Teaching about Evolution and the Nature of Science*, National Academy Press (2003)). The restriction to natural explanations in science is implicit in this definition because non-natural explanations are not testable.

42. This rigorous attachment to “natural” explanations is an essential attribute of science. 1:63 (Miller); 5:29-31 (Pennock). Both definitionally and by convention, science is limited to “natural” explanations. 5:29-30 (Pennock). Science is the “systematic search for natural explanations for natural phenomena.” 1:59, 63 (Miller); 5:30 (Pennock). This search is dependent on empirical observations – what we can observe and measure -- that can be tested, replicated and disproven. 1:63 (Miller). If non-natural explanations are allowed, *e.g.*, Dr. Miller’s example about God’s role in helping the Red Sox win the world series, the systematic search for “natural causes” is completely undermined. 1:63-64 (Miller). As Pennock testified, allowing non-natural explanations is “cheating”; you “can’t just call for quick assistance to some supernatural power. It would certainly make science very easy...” but it would also fundamentally alter the practice of science. 5:30 (Pennock). From a practical perspective, attributing unsolved problems about nature to causes and forces that lie outside the natural

world is a “science stopper.” 3:14-15 (Miller). Once you attribute a cause to an untestable supernatural force, a proposition that cannot be disproven, there is no reason to continue seeking natural explanations – we have our answer. *Id.*

43. Intelligent design is predicated on supernatural causation. 17:96 (Padian); 2:35-36 (Miller); 14:62 (Alters). Intelligent design takes a natural phenomenon and, instead of accepting or seeking a natural explanation, argues that the explanation is supernatural. 5:107 (Pennock).

44. The intelligent-design reference book cited in the Dover statement as describing “what intelligent design actually involves,” *Of Pandas and People*, is clear that the idea entails supernatural causation: “Darwinists object to the view of intelligent design *because it does not give a natural cause explanation* of how the various forms of life started in the first place. Intelligent design means that various forms of life began abruptly, through an intelligent agency, with their distinctive feature already intact – fish with fins and scales, birds with feathers, beaks, and wings, etc.” P11, at 99-100. (Emphasis added). In other words, animals did not evolve naturally, through evolutionary means, but rather were created abruptly by a non-natural, or supernatural, designer.

45. Even defendants’ own expert witnesses acknowledged this point. 21:96-100 (Behe); *see also*, P718, Michael Behe, *Reply to Critics*, at 696, 700 (“implausible that the designer is a natural entity”); 28:21-22 (Fuller) (“...ID’s

rejection of naturalism and commitment to supernaturalism...”), 24; 38:95-96 (Minnich) (ID does not exclude possibility of supernatural designer, including deities).

46. Indeed, defendants’ argument, which mirrors that of the intelligent-design movement, is to change the ground rules of science to allow supernatural causation of the natural world. 5:32 (Pennock). Professor Fuller agreed that intelligent design aspires to “change the ground rules” of science. 28:26. Professor Behe admitted that his broadened definition of science, which encompasses intelligent design, would also embrace astrology. 21:37-42 (Behe). Professor Minnich acknowledged that for intelligent design to be considered science, the ground rules of science have to be broadened to allow consideration of supernatural causes. 38:97.

47. William Dembski, an intelligent-design-movement leader, proclaims that science is ruled by methodological naturalism and argues that this rule must be overturned if intelligent design is to prosper. 5:32-37 (Pennock). Dembski contends that “the scientific picture of the world championed since the Enlightenment is not just wrong, but massively wrong. Indeed, entire fields of inquiry, including especially the human sciences, will need to be rethought from the ground up in terms of intelligent design.” 5:35 (Pennock); P341 (William Dembski, *Intelligent Design: A Bridge Between Science and Theology*, at 224.

48. The Discovery Institute, the think tank promoting intelligent design, has also acknowledged that the goal is to “defeat scientific materialism” and “to replace materialistic explanations with the theistic understanding that nature and human beings are created by God.” P140, at 6 (The Wedge Document). *See supra.* ¶ 11.

49. Every major scientific association that has taken a position on this issue has stated that intelligent design is not, and cannot be considered, science. 1:98-99 (Miller); 14:75-78 (Alters); 37:25 (Minnich).

50. For example, NAS views intelligent design as follows: “Creationism, intelligent design, and other claims of supernatural intervention in the origin of life or of species are not science because they are not testable by the methods of science. These claims subordinate observed data to statements based on authority, revelation, or religious belief. Documentation offered in support of these claims is typically limited to the special publications of their advocates. These publications do not offer hypotheses subject to change in light of new data, new interpretations, or demonstration of error. This contrasts with science, where any hypothesis or theory always remains subject to the possibility of rejection or modification in the light of new knowledge.” P192, at 25 (National Academy Press, *Science and Creationism: A View from the National Academy of Sciences* (2d Ed. 1999)).

51. The largest organization of scientists in this country, the American Association for the Advancement of Science (“AAAS”), has taken a similar position on intelligent design, namely, that it “has not proposed a scientific means of testing its claims” and that “the lack of scientific warrant for so-called ‘intelligent design theory’ makes it improper to include as part of science education....” P198 (*AAAS Board Resolution on Intelligent Design Theory, Oct. 18, 2002*).

52. Neither plaintiffs’ nor defendants’ expert witnesses identified a single major scientific association, society or organization that endorsed intelligent design as science.

53. Defendant’s experts admit that intelligent design is not a theory as that term is defined by the NAS. 21:37-38 (Behe); Fuller Dep. 98. According to Professor Behe, intelligent design is a scientific theory only if that term is defined loosely enough to also include astrology. 21:38-39.

54. Defendants’ expert Steve Fuller described intelligent design as “fringe science,” which need affirmative action to become accepted. 28:47 Defendants’ expert Scott Minnich admitted that intelligent design has achieved no acceptance in the scientific community; it is science “in its infancy.” Minnich Dep. at 89.

55. Intelligent design does not, therefore, meet the essential ground rules that limit science to testable, natural explanations. 3:101-03 (Miller); 14:62 (Alters).

56. Science cannot be defined differently for Dover students than it is defined in the scientific community as an affirmative action program for a view that has been unable to gain a foothold within the scientific establishment. Intelligent design's failure to meet the ground rules of science is alone enough for this Court to rule that it is not a scientific view.

B. Intelligent Design Relies on the Same Logically Flawed Argument that Doomed Creation Science

57. Intelligent design is premised on a false dichotomy, namely, that to the extent evolutionary theory is discredited, intelligent design is confirmed. 5:41 (Pennock). This same argument, termed "contrived dualism" in *McLean v. Arkansas Board of Education*, was employed by creationists in the 1980's to support "creation science." This argument is no more availing to justify intelligent design today than it was to justify creation science two decades ago.

58. Intelligent design proponents primarily argue for design through negative argument against evolution, including Professor Behe's argument that "irreducibly complex" systems cannot be produced through Darwinian, or any natural, mechanisms. 5:38-41 (Pennock). 1:39, 2:15, 2:35-37, 3:96 (Miller); 16:72-73 (Padian); 5:38-41 (Pennock); 10:148 (Forrest). Intelligent design

attempts to “poke holes” in evolutionary theory – to say that Darwinian mechanisms, meaning natural causes, cannot explain life’s complexity. 5:39 (Pennock).

59. For example, Professor Behe argued that intelligent design “focuses exclusively on the proposed mechanism of how complex biological structures arose,” 21:63, but admitted that intelligent design does not propose any mechanism, just a negative argument against natural selection. 21:84-87. He also conceded that, “*Pandas* is making a negative argument against common descent to ... more greatly enhance the plausibility of the alternative of intelligent design.” 21:82.

60. The following passages from *Of Pandas and People*, P11, also reflect this negative argument against evolution: “Design proponents have long asserted that gaps in the fossil record are evidence for intelligent design,” at 87; “Since it is not reliable, most of the so-called evidence for macro-evolution (and conversely against intelligent design) obtained from comparative anatomy and embryology is weak and could turn out to be misleading...” at 133 (parenthetical in original); Multiple accidental gene mutations are a highly improbable source of new genetic information to code for multi-functional structures....” at 72; and “[n]o creatures with a partial wing or partial eye are known. Should we close our minds to the possibility that the various types of plants and animals were

intelligently designed? This alternative suggests that a reasonable natural cause explanation for origins may never be found, and that intelligent design best fits the data....” at 99-100.

61. Arguments *against* evolution are not arguments *for* design. Just because scientists cannot explain today how biological systems evolved does not mean they cannot, and will not, be able to explain them tomorrow. 2:36-37 (Miller). In Dr. Padian’s words, “absence of evidence is not evidence of absence.” 17:45. Testimony from Drs. Miller and Padian was replete with examples where *Pandas* asserted that no natural explanations exist, and in some cases that none could exist, and yet natural explanations have been identified in the intervening years, *e.g.*, intermediate fossils showing evolution of the whale, evolution of the immune system, mapping of the chimpanzee genome “spectacularly confirming” common ancestry between humans and great apes, etc.

62. Just because scientists cannot explain every evolutionary detail does not undermine its validity as a scientific theory. No theory in science is fully understood. 3:102 (Miller). But that is true in other areas of knowledge, too. We do not know every detail about what happened at Gettysburg, but historians do not doubt the fact of the battle and know a great deal about how it unfolded. 3:104-05 (Miller). Just because we do not know every detail about Gettysburg or how evolution progresses does not mean we are not confident that the battle occurred or

that the theory of evolution is the best scientific explanation for change over time.
Id.

63. According to defendants' own expert, Stephen Fuller, design does not logically follow from scientists' inability to explain every detail of how evolution occurred. 28:63-66. *See also* 2:40 (Miller). In fact, Professor Fuller testified that even if the negative argument of irreducible complexity disproved natural selection, it does not follow that intelligent design is proved because it does not rule out rival hypotheses. Fuller Dep. at 167-70.

**C. Irreducible Complexity Fails Even as a Purely Negative
Argument Against Evolution**

64. Irreducible complexity, intelligent design's alleged scientific centerpiece, is simply a negative argument against evolution, not proof of design, 2:15 (Miller), a point conceded by Professor Minnich. 38:82 (irreducible complexity "is not a test of intelligent design; it's a test of evolution"). It fails to make any positive scientific case for intelligent design. Moreover, the evidence demonstrates that irreducible complexity fails even as a purely negative argument.

65. Irreducible complexity was defined by Professor Behe in *Darwin's Black Box* and modified in his 2001 article *Reply to My Critics*, as follows: "'By *irreducibly complex* I mean a single system which is composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease

functioning. An irreducibly complex system cannot be produced directly by slight, successive modifications of a precursor system, because any precursor to an irreducibly complex system that is missing a part is by definition nonfunctional.

*** Since natural selection can only choose systems that are already working, then if a biological system cannot be produced gradually it would have to arise as an integrated unit, in one fell swoop, for natural selection to have anything to act on.” P647, Behe, Michael, *Darwin’s Black Box*, at 39, Free Press (1996). P718, at 694.

66. Professor Behe admitted in *Reply to My Critics* that there was a defect in his view of irreducible complexity because, while it purports to be a challenge to natural selection, it does not actually address “the task facing natural selection.” P718, at 695. Specifically, Behe explained that “[t]he current definition puts the focus on removing a part from an already-functioning system,” but “[t]he difficult task facing Darwinian evolution, however, would not be to remove parts from sophisticated pre-existing systems; it would be to bring together components to make a new system in the first place.” P718, at 695. In that article, Professor Behe wrote that he hoped to “repair this defect in future work,” P718, at 695, but he never has. 22:61-65. This admitted failure to properly address the very phenomenon that irreducible complexity purports to place at issue – natural selection – is a damning indictment of the entire proposition.

67. Dr. Miller and Dr. Padian explained that Professor Behe's concept of irreducible complexity depends on ignoring ways in which evolution is known to occur. Behe was adamant that in his definition of irreducible complexity when he says a precursor "missing a part is by definition nonfunctional," what he means is that it won't function in the way the system functions when all the parts are present – for example, in the case of the bacterial flagellum, as a rotary motor. 19:88. He excludes, by definition, the possibility that a precursor functioned in some other way – for example, in the case of the bacterial flagellum, as a secretory system. 19:88-95.

68. This qualification on what is meant by "irreducible complexity" renders it meaningless as a criticism of evolution. 3:40 (Miller). As Dr. Padian described it: "Irreducible complexity on its face is a simple statement about a machine or some kind of structure that has several parts. If you take away one of those parts, then it stops functioning. Well, any 8-year-old with a broken bicycle chain knows that he can't ride around anymore with a broken bicycle chain, if that part is broken it's not going to work. No one's got a Nobel prize for that proposition. This only makes sense in the context of intelligent design when irreducible complexity is invoked as a way to assert that no structure could have evolved by natural means." 17:44.

69. In fact, the theory of evolution has a well-recognized, well-documented explanation for how systems with multiple parts could have evolved through natural means, namely, exaptation. Exaptation means that some precursor of the subject system had a different, selectable function before experiencing the change or addition that resulted in the subject system with its present function. 16:146-48 (Padian). For instance, Dr. Padian identified the evolution of the mammalian middle ear bones from what had been jawbones as an example of this process. 17:6-17. The existence of feathers for other purposes in flightless dinosaurs is another example. 17:131-45. Even Professor Minnich freely admitted that bacteria living in soil polluted with DNT on an U.S. Air Force base had evolved a complex, multiple-protein biochemical pathway by exaptation of proteins with other functions (38:71) (“This entire pathway didn't evolve to specifically attack this substraight [substrate], all right. There was probably a modification of two or three enzymes, perhaps cloned in from a different system that ultimately allowed this to be broken down.”) By defining irreducible complexity in the way he has, Professor Behe attempts to exclude the phenomenon of exaptation by definitional fiat. He asserts that evolution could not work by excluding one important way that evolution is known to work.

70. The National Academy of Sciences has rejected Professor Behe's claim for irreducible complexity, using this same reasoning. “[S]tructures

and processes that are claimed to be “irreducibly” complex typically are not on closer inspection. For example, it is incorrect to assume that a complex structure or biochemical process can function only if all its components are present and functioning as we see them today. Complex biochemical systems can be built up from simpler systems through natural selection. Thus, the “history” of a protein can be traced through simpler organisms. Jawless fish have a simpler hemoglobin than do jawed fish, which in turn have a simpler hemoglobin than mammals. ***

The evolution of complex molecular systems can occur in several ways. Natural selection can bring together parts of a system for one function at one time and then, at a later time, recombine those parts with other systems of components to produce a system that has a different function. Genes can be duplicated, altered, and then amplified through natural selection. The complex biochemical cascade resulting in blood clotting has been explained in this fashion.” P192, at 22.

71. Professor Behe has applied irreducible complexity only to a few select systems: the bacterial flagellum, the blood-clotting cascade and the immune system. As discussed below, Professor Behe has admitted there are no peer-reviewed articles arguing for the irreducible complexity of the bacterial flagellum, the blood-clotting cascade and the immune system, or any other purportedly irreducibly complex system.

72. Because it is only a negative argument against evolution, irreducible complexity, unlike intelligent design, is testable, by showing that there are intermediate structures, with selectable functions, that could have evolved into the allegedly irreducibly complex systems. 2:15-16 (Miller). The fact that this negative argument is testable does not make the argument for intelligent design testable. 2:15 (Miller); 5:39-39 (Pennock).

73. Dr. Miller presented evidence, based on peer-reviewed studies, that the biochemical systems claimed to be irreducibly complex by Professor Behe were in fact not so. 2:21-36.

74. Dr. Miller pointed to peer-reviewed studies that identified a possible pre-cursor to the bacterial flagellum, a subsystem that was fully functional, namely, the Type-III Secretory System. 2:8-20; P854.23-854.32. (on bacterial flagellum). Professor Minnich admits that there is serious scientific research on the question of whether the bacterial flagellum evolved into the Type-III Secretory System, the Type-III Secretory System into the bacterial flagellum, or they both evolved from a common ancestor, and none of this research or thinking is considering intelligent design. (38:12-16). He testified about this research: “we’re looking at the function of these systems and how they could have been derived one from the other. And it’s a legitimate scientific inquiry.” (38:16). He also testified that “I have no idea in terms of how it came about. I just look at the

structure. And it has the signature of irreducible complexity and design. It's a true rotary engine. I just come back to that. It doesn't say anything about where it came from, when it was made, or who was involved in it, or what was involved in it." 38:16.

75. Dr. Miller demonstrated that the alleged irreducible complexity of the blood-clotting cascade has been disproven by peer-reviewed studies going back to 1969, which showed that dolphins' and whales' blood clots despite missing a part of the cascade, a study that was confirmed by molecular testing in 1998. 1:122-29; P854.17-854.22. More recently, scientists published studies showing that in puffer fish, blood clots despite the cascade missing not only one, but three parts. 1:128-29. In sum, scientists in peer-reviewed publications have refuted Behe's prediction about the alleged irreducible complexity of the blood-clotting cascade. Professor Behe tried to elide this compelling evidence by redefining the blood clotting system. (Behe) 20:26-28. Cross-examination revealed this to be an argument of convenience designed to avoid peer-reviewed scientific evidence that falsifies his argument, not a scientifically warranted redefinition. (Behe) 22:112-125.

76. Dr. Miller also presented peer-reviewed studies refuting Professor Behe's claim that the immune system was irreducibly complex. 2:21-36; P854.33-854.41. Professor Behe wrote in *Darwin's Black Box* not only that there

were no natural explanations at the time, but that in fact natural explanations were impossible: “As scientists, we yearn to understand how this magnificent mechanism came to be, but the complexity of the system dooms all Darwinian explanations to frustration. Sisyphus himself would pity us.” P647, at 139; 2:26-27 (Miller). Professor Behe argued that scientists should not even bother to investigate. 2:27 (Miller). However, scientists did not heed Professor Behe’s admonition, and, between 1996 and 2005, various studies confirmed each element of the evolutionary hypothesis explaining the origin of the immune system. 2:31 (Miller).

77. On cross-examination Professor Behe was questioned about his 1996 claim that science would never find an evolutionary explanation for the immune system. He was confronted with the fifty-eight peer-reviewed publications, nine books and several immunology text-book chapters about the evolution of the immune system, P256, 280, 281, 283, 747, 748, 755 and 743, and he insisted that this was still not sufficient evidence of evolution – it was “not good enough.” 23:19.

78. This evidence demonstrates that the intelligent design argument depends on setting a burden of proof for the theory of evolution that is scientifically unreasonable.

79. As a further example, the test for intelligent design proposed by both Professors Behe and Minnich is to grow the bacterial flagellum in the laboratory. P718, 18:125-127. But nobody inside or outside the intelligent-design movement, including Behe and Minnich, has conducted this test. 22:102-06 (Behe). Professor Behe admitted that the proposed test could not approximate real world conditions. 22:107-110. And even if it could, it would be merely a test of evolution, not design, 2:15 (Miller), a point conceded by Professor Minnich. 38:82 (“it’s not a test of ID, it’s a test of evolution”).

80. In summary, Professor Behe’s claim for irreducible complexity has been refuted in peer-reviewed research papers and has been rejected by the scientific community. 17:45-46 (Padian); 3:99 (Miller). Moreover, even if irreducible complexity had not been rejected, it still does not support intelligent design. 2:15, 2:35-40 (Miller); 28:63-66 (Fuller – ID doesn’t follow logically). Irreducible complexity is merely a test for evolution, not design. 2:15 (Miller).

81. Defendants’ protestations notwithstanding, the Court finds that there is no testable, positive argument for intelligent design. Neither *Pandas* nor any witness in this trial has proposed a scientific test *for* design. 2:39 (Miller).

D. The “Positive Argument” for Design is Unscientific and Illogical

82. The purportedly positive argument for design, espoused repeatedly by Professors Behe and Minnich, is encompassed in the phrase,

“purposeful arrangement of parts.” 18:91 (“I discussed this in my book, Darwin's Black Box, and a short description of design is shown in this quotation from Chapter 9. Quote, What is design? Design is simply the purposeful arrangement of parts. When we perceive that parts have been arranged to fulfill a purpose, that's when we infer design.”); 19:55 (“the positive argument for it is the purposeful arrangement of parts, as I have described.”); 19:102 (“...I want to re-emphasize to say that it is important to keep in mind that the positive inductive argument for design is in the purposeful arrangement of parts.”).

83. Professor Behe summarized the argument as follows: We infer design when we see parts that appear to be arranged for a purpose. The strength of the inference is quantitative; the more parts that are arranged, and the more intricately they interact, the stronger is our confidence in design. The appearance of design in aspects of biology is overwhelming. Since nothing other than an intelligent cause has been demonstrated to be able to yield such a strong appearance of design, Darwinian claims notwithstanding, the conclusion that the design seen in life is real design is rationally justified. 18:90-91 (Behe slides, at 7); 18:109-110. *See also*, 37:50 (Minnich).

84. This is not a new argument, but a restatement of the Reverend William Paley's argument applied at the cell level. 1:6-7 (Miller); 38:44, 57 (Minnich). Minnich, Behe and Paley reach the same conclusion that complex

organisms must have been designed using the same reasoning, except that Professors Behe and Minnich refuse to identify the designer, whereas Paley inferred from the presence of design that it was God. *Id.*

85. This inductive argument is not scientific. 2:40 (Miller). As Professor Behe admitted, it can never be ruled out. 22:101. *See also*, 3:99 (Miller).

86. The assertion that design of biological systems can be inferred from the “purposeful arrangement of parts” is based on an analogy to human design. According to Professor Behe, because we are able to recognize design of artifacts and objects, that same reasoning can be employed to determine biological design. 18:116-17; 23:50.

87. Professor Behe testified that the strength of an analogy depends on the degree of similarity entailed in the two propositions. 20:69. If this is the test, intelligent design completely fails.

88. Unlike biological systems, human artifacts do not live and reproduce over deep time. They are non-replicable; they don’t undergo genetic recombination; and they are not driven by natural selection. 1:131-33 (Miller); 23:57-59 (Behe). This difference is noted in one of the articles relied upon by Professor Minnich, rejecting the analogy between machines and biological systems, because “[m]achines are not made of parts that continually turn over,

renew. The organism is the stability of an organism lies in resilience, the homeostatic capacity to reestablish itself.” D251, at 176.

89. For human artifacts, we know the designer’s identity (human), the mechanism of design (because we have experience based on empirical evidence that humans can make such things), and many other attributes such as the designer’s abilities, needs and desires. *Id.* 1:131-33 (Miller); 23:63 (Behe) 5:55-58 (Pennock). With intelligent design, proponents say that they refuse to propose hypotheses on the designer’s identity, do not propose a mechanism, and he, she, it (or they) has never been seen. Professor Minnich agreed that in the case of human artifacts and objects we know who the designer is and what the capacities of humans are, but that we don’t know any of those attributes for the designer of biological life. 38:44-47. Professor Behe agreed that for human design we know the designer and its attributes (needs, desires, abilities, limitations, materials, technology), 23:61-70; and we have a baseline for human design that does not exist for design of biological systems, 23:70-73. Professor Behe’s only response to these insurmountable points of disanalogy was that the inference still works in science fiction movies. 23:73.

90. Ultimately, the only attribute of design that biological systems share with human artifacts is their complex appearance -- if it looks complex or designed, it must have been designed. 23:73 (Behe). Taken to its logical

conclusion, this “positive” design argument applies to every complicated thing we see in the universe (tornadoes, the rings of Saturn, the complex ice crystals in snowflakes, etc.), a result whereby natural explanations could be replaced in every instance by “design” arguments. But as Professor Behe conceded about the long discarded geocentric theory, scientific propositions based entirely on appearance can be very wrong. 19:5-6 (Behe); *see also* 16:74 (Padian).

91. This inference to design based on the appearance of a “purposeful arrangement of parts” is a completely subjective proposition, determined in the eye of each beholder. Both Behe and Minnich asserted that there is a quantitative aspect to the inference, but on cross-examination admitted there is no quantitative criteria for determining the degree of complexity or number of parts that bespeak design, rather than a natural process. 23:50 (Behe); 38:59 (Minnich). In fact, in the entire trial there was only one piece of evidence generated by defendants that addressed the strength of the intelligent-design inference: the argument is less plausible to those for whom God’s existence is in question, and is much less plausible for those who deny God’s existence. Michael J. Behe, *Reply to My Critics, Biology and Philosophy* 16:685-709, 2001. P718, at 705.

92. This purported positive argument for intelligent design does not satisfy the ground rules of science, which require testable hypotheses based on

natural explanations. 3:101-03 (Miller). Intelligent design relies on forces acting outside the natural world, forces that we cannot see, replicate, control or test, which have produced changes in this world. 3:101 (Miller). While such forces may exist, just as it may be true that God arranged the victory of the Red Sox in the World Series, they are not testable by science and, therefore, cannot qualify as part of the scientific process or as a scientific hypothesis or theory. 3:101-02 (Miller).

E. Intelligent Design's Claims Against Evolution are Based on Discredited Science

93. Intelligent design proponents support their argument that evolutionary theory cannot account for life's complexity by pointing not only to real gaps in scientific knowledge – which indisputably exist in all scientific theories – but also by misrepresenting well-established scientific propositions. 1:112, 1:122, 1:136-37 (Miller); 16:74-79, 17:45-46 (Padian).

94. Before discussing defendants' claims about evolution in greater detail, it must be noted that the overwhelming number of scientists, as reflected by every scientific association that has spoken to the matter, have rejected intelligent-design proponents' challenge to evolution. For example, NAS has adopted the position that:

(a) “Evolution is the central organizing principle that biologists use to understand the world. To teach biology without explaining

evolution deprives students of a powerful concept that brings great order and coherence to our understanding of life.” P194, at 3.

(b) “Those who oppose the teaching of evolution in public schools sometimes ask that teachers present ‘evidence against evolution.’

However, there is no debate within the scientific community over whether evolution occurred, and there is no evidence that evolution has not occurred. Some of the details of how evolution occurs are still being investigated. But scientists continue to debate only the particular mechanisms that result in evolution, not the overall accuracy of evolution as the explanation of life’s history.” *Id.* at 4.

95. Dr. Kenneth Miller, plaintiffs’ expert in biology, explained evolutionary theory. Dr. Miller is a widely-recognized biology professor at Brown University. His research focus is cell-biology. P214 (curriculum vitae). He has written university-level and high-school-biology text books. 1:40-47. Indeed, his high school text, which was selected for use in Dover, is used by about 35% of the school districts in the nation. 1:44. He is the former editor of several prominent cell biology journals, 1:37-38, and serves as the science advisor to the PBS News Hour and formerly as an advisor to the PBS science program NOVA. P214.

96. Dr. Miller explained that evolution is the process of change over time. 1:70. It consists of three core propositions. The first is that life in the past was different from today, and that it indeed has changed over time. 1:71. The

second is the principle of common descent, which is that living things are united by common ancestry. *Id.* The third is that changes over time and common descent are driven by forces, principles and actions observable in the world today. *Id.* There are actually many forces and processes, but they are typically united under the term “natural selection. *Id.*

97. Charles Darwin’s contribution to evolution was to propose a plausible, workable and ultimately testable mechanism for the process that drives adaptive change over time, and that process is natural selection. 1:72-73.

98. According to Dr. Miller, since Darwin’s time, modern-day genetics and molecular biology have “provided dramatic confirmation” of Darwin’s theory. 1:74-75.³

³ Dr. Miller gave two examples to show how modern genetics applies to, and supports, evolutionary theory. Both presentations were based on peer-reviewed publications. The first involved slides depicting how scientists have been able to demonstrate that pseudo-gene errors shared by three organisms – gorillas, chimpanzees and humans – are powerful evidence for common ancestry. 1:77-82; P854.1-P854.8. Dr. Miller’s second example showed how evolution explained the fact that humans have 46 chromosomes and the great apes have 48. The evolutionary explanation, a fusion of two ape chromosomes into one human chromosome, was tested and verified using DNA sequences from the Human Genome Project and Chimpanzee Genome Project, and this result is strong evidence for common descent. 1:82-86; P851.1-P854.8. Dr. Miller also testified about a just-released peer-reviewed publication, in the prominent scientific journal *Nature*, in which the completed mapping of the chimpanzee genome “spectacularly confirmed” common ancestry. 1:88-90; P643 at 69.

99. The National Academy of Sciences is in accord with Dr. Miller's testimony that 20th-century developments in genetics and molecular biology actually support evolutionary theory: "The confirmation of Darwin's ideas about 'descent with modification' by this recent molecular evidence has been one of the most exciting developments in biology this century." P194, at 42. The NAS report continues by saying that, "These molecular studies [referring to the human genome project] are powerful evidence for evolution." *Id.*

100. In testimony that was unrebutted, Dr. Miller testified that evolution, including common descent and natural selection, are "overwhelmingly accepted" by the scientific community, and that every major scientific association agrees. 1:94-100. *See, e.g.*, P194, at 16 (NAS, *Teaching about Evolution*). ("The concept of evolution through random genetic variation and natural selection makes sense of what would otherwise be a huge body of unconnected observations. It is no longer possible to sustain scientifically the view that the living things we see today did not evolve from earlier forms or that the human species was not produced by the same evolutionary mechanisms that apply to the rest of the living world.")

101. Despite the scientific community's overwhelming support for evolution, defendants and intelligent-design proponents insist that evolution is unsupported by empirical evidence. Plaintiffs' science experts, Drs. Miller and

Padian, explained how intelligent-design proponents generally, and *Pandas* specifically, distort and misrepresent scientific knowledge in making the anti-evolution argument.

F. *Of Pandas And People* Presents Discredited Science

102. Defendants hold out *Of Pandas and People* as representative of the intelligent-design argument. The statement read to students expressly asserts this point: “Of Pandas and People is available for students who might be interested in gaining an understanding of what intelligent design actually involves.” P124, 131. Plaintiffs’ experts agreed that *Pandas* is representative of intelligent design. 16:83 (Padian); 1:107-08 (Miller).

103. Many of the arguments against evolutionary theory in *Of Pandas and People* involve paleontology, which studies the life of the past and the fossil record. 16:46-47 (Padian).

104. Professor Kevin Padian was the only testifying expert witness with any expertise in paleontology. Dr. Padian’s qualifications are impeccable, with thirty years of research on the evolution of flight and locomotion in flying reptiles, publication of nearly one hundred peer-reviewed articles, editorships of several major scientific publications, curatorship of the Museum of Paleontology at the University of California at Berkeley, and co-editor and author of the *Encyclopedia of Dinosaurs*. 16:42-59 (Padian); P292 (curriculum vitae).

105. None of defendants' testifying experts have any expertise in paleontology or the fossil record. 17:16-17 (Padian). Furthermore, there is no evidence that either defendants' testifying experts or any other intelligent-design proponents, including *Pandas*' authors, have such expertise since they have not published peer-reviewed literature or presented at scientific conferences on paleontology or the fossil record. 17:15-16 (Padian). Professor Behe admitted that he has no basis to vouch for *Pandas*' representation of the fossil record. 21:44-45.

106. Therefore, Dr. Padian's testimony is uncontested.

107. Through a series of demonstrative slides prepared based on peer-reviewed scientific literature, Dr. Padian showed how *Of Pandas and People* systematically distorts and misrepresents established and important evolutionary principles. For instance, *Pandas* misrepresents the "dominant form of understanding relationships" between organisms, namely, the tree of life, represented by *classification* determined via the method of cladistics. 16:87-97; demonstrative P855.6-855.19. *Pandas* also misrepresents "*homology*," the "central concept of comparative biology," that has for hundreds of years allowed scientists to compare comparable parts among organisms for classification purposes. 17:27-40; P855.83-855.102. And *Pandas* fails to address at all the well-established biological concept of *exaptation*, which involves a structure changing function, like fish fins evolving fingers and bones to become legs for weight-

bearing land animals, dinosaur forelimbs becoming bird wings, and the front and back legs of primitive hoofed mammals becoming whale flippers and vestigial limbs, respectively. 16:146-48. Dr. Padian testified that intelligent-design proponents do not address exaptation because they deny that organisms change function, a view necessary to support the abrupt-appearance argument. *Id.*

108. Dr. Padian's unrebutted testimony also demonstrates that *Pandas* distorts and misrepresents evidence in the fossil record about pre-Cambrian-era fossils, 16:107-17; P855.25-855.33 about the evolution of fish to amphibians, 16:117-131; P855.34-855.45, the evolution of small carnivorous dinosaurs into birds, 16:131-45; P855.46-855.55, the evolution of the mammalian middle ear, 17:6-9 (Padian); P855.56-866.63, and the evolution of whales from land animals. 17:17-27; P855.64-855.82.

109. NAS publications are in agreement that *Pandas*' misrepresents the alleged gaps in the fossil record. In fact, fossil discoveries since Darwin's time have confirmed his evolutionary theories: "At the time of Darwin, there were many unsolved puzzles, including missing links in the fossil record between major groups of animals. Guided by the central idea of evolution, thousands of scientists have spent their lives searching for evidence that either supports or conflicts with the idea. For example, since Darwin's time, paleontologists have discovered many ancient organisms that connect major groups – such as *Archaeopteryx* between

ancient reptiles and birds, and *Ichthyostega* between ancient fish and amphibians. By now, so much evidence has been found that supports the fundamental idea of biological evolution that its occurrence is no longer questioned in science.” P194, P39.

110. Dr. Miller testified that *Pandas*’ treatment of biochemical similarities between organisms is “inaccurate and downright false.” 1:112 (Miller). He explained, through a series of demonstrative slides based on peer-reviewed publications, how *Pandas* misrepresents basic molecular biology concepts to advance the design theory. For example, he testified how *Pandas* misinforms readers on the standard evolutionary relationships between different types of animals, 1:113-17; P854.9-854.16, a distortion Professor Behe affirmed. 23:35-36. Dr. Miller also refuted *Pandas*’ claim that evolution cannot account for new genetic information. Dr. Miller pointed to more than three-dozen peer-reviewed-scientific publications showing the origin of new genetic information by evolutionary processes. 1:133-36; P245. In sum, Dr. Miller testified that *Pandas* misrepresents molecular-biology and genetics principles, and the current state of scientific knowledge in those areas, in order to teach readers that common descent and natural selection are not scientifically sound. 1:139-42. For instance, *Pandas* reads: “Adherents of intelligent design assume that in the beginning all basic types of organisms were given a set of genetic instructions that harbored variation but

were resilient and stable.” P11, at 65; 1:139-40. This is an argument for special creation that has no support in the scientific literature. 1:140-42.

G. Intelligent Design Has Not Produced Peer Reviewed Articles or Research

111. In sum, the one textbook to which the Dover policy directs students contains badly flawed and scientifically refuted science. These flaws extend to intelligent-design arguments writ large, as discussed in the section on irreducible complexity, *supra*.

112. Yet another measure of how intelligent design has failed to demonstrate scientific warrant is the complete absence of peer-reviewed publications supporting the concept. Peer review is “exquisitely important” in the scientific process. 1:67 (Miller). Peer review is a way for scientists to write up their empirical research and to share the work with fellow experts in the field, opening up the hypotheses to study, testing and criticism. 1:66-69 (Miller). Peer review helps to ensure that research papers are scientifically accurate, meet the standards of the scientific method, and are relevant and interesting to other scientists in the field. 1:39-40 (Miller).

113. Peer review involves scientists submitting a manuscript to a scientific journal in the field. The journal editors will solicit critical reviews from other experts in the field. These experts decide whether the scientist has followed proper research procedures, employed up-to-date methods, considered and cited

relevant literature, inferred or speculated more than appropriate, and, generally, whether the researcher has employed sound science. The editor collects the reviewers' comments and either accepts the submission, indicates changes that must be made to allow acceptance, or rejects it. More respected journals have high rejection rates, some as high as 90%. Experts repeatedly testified that the most respected journals are Nature and Science, and the Proceedings of the National Academy of Science, with more specialized publications in the various disciplines, such as Journal of Vertebrate Paleontology and Cell, having smaller circulations but also commanding wide respect. 16:49-53 (Padian); 1:39-40, 67-69 (Miller).

114. Defendants' expert, Professor Behe, recognizes the importance to science of the peer review process. 22:25. Behe has written that science must "publish or perish." 22:19-21, citing P647, Michael Behe, *Darwin's Black Box*, at 185 (1996). Professor Minnich agreed that it is important to publish in peer-reviewed journals so scientific peers can evaluate the evidence and conclusions. 38:32.

115. Books, even those published by academic presses, are not subject to the same rigorous peer review that is employed at the most prestigious scientific journals. 2:3-4 (neither Miller's book, *Finding Darwin's God*, nor Behe's *Darwin's Black Box* were peer reviewed "by standards of science"), 2:79-81 (Miller). Despite Professor Behe's unsupported assertion that *Darwin's Black*

Box was peer-reviewed, plaintiffs undermined this claim on cross examination.

Dr. Behe admitted that the book contained no original research, 22:23, and he had no explanation for a published statement by one claimed-peer reviewer, Dr.

Atchison, that he never read the book before recommending publication. 22:26-32.

Simply because a scientist publishes a book does not automatically transform the subject matter into science; it is still a question of how the idea is received by the scientific community and whether it ultimately is accepted in peer-reviewed publications. 16:55-56 (Padian).

116. Intelligent design is not supported by any peer-reviewed research, data or publications. Both Doctors Padian and Forrest testified that recent literature reviews of scientific and medical-electronic databases disclosed no studies supporting a biological concept of intelligent design. 17:42-43 (Padian); 11:32-33 (Forrest).

117. Professor Behe, under cross examination, admitted that, “There are no peer reviewed articles by anyone advocating for intelligent design supported by pertinent experiments or calculations which provide detailed rigorous accounts of how intelligent design of any biological system occurred.” 22:22-23 (Behe). He also acknowledged that there were no peer-reviewed papers supporting his claims that complex molecular systems, like the bacterial flagellum, the blood-clotting cascade and the immune system, were intelligently designed. 21:61-62

(complex molecular systems), 23:4-5 (immune system), and 22:124-25 (blood-clotting cascade).

118. Similarly, there are no peer-reviewed articles supporting Professor Behe's argument that certain complex molecular structures are "irreducibly complex." 21:62, 22:124-25. The one article referenced by Professors Behe and Minnich, as supporting intelligent design, Behe and Snoke, "*Simulating evolution by gene duplication of protein features that require multiple amino acid residues*" Protein Science, P721, does not mention either irreducible complexity or intelligent design. Professor Behe also admitted that this study did not rule out many known evolutionary mechanisms and that the research actually might support evolutionary pathways if a biologically realistic population size were used. 22:41-55; P756.

119. Besides failing to produce papers in peer-reviewed journals, intelligent design also features no scientific research or testing. 28:114-115 (Fuller); 18:22-23, 105-106 (Behe). Intelligent design is now nearly two-decades old, and it has produced no scientific research. 17:45 (Padian).

120. Because intelligent design has failed to publish in peer-reviewed journals, engage in research and testing, and gain acceptance in the scientific community, it cannot be adjudged a valid, accepted scientific theory.

H. Conclusion to Science Section

121. The Court concludes that while intelligent design arguments may be true – a proposition on which the Court takes no position – the theory is not science. Moreover, because intelligent design is ultimately predicated on a supernatural creator, the theory is religious, a finding required by the Supreme Court’s holding in *Edwards v. Aguillard*.

IV. THE DOVER SCHOOL BOARD SOUGHT TO PROMOTE CREATIONISM IN THE GUISE OF INTELLIGENT DESIGN AND DENIGRATE THE SCIENTIFIC THEORY OF EVOLUTION ON RELIGIOUS GROUNDS

A. The Parties

122. Defendant Dover Area School District is a municipal corporation with a board of directors, which is defendant Dover Area School District Board of Directors (the “Board”). The Dover Area School District is comprised of Dover Township, Washington Township, and Dover Borough, all in York County, Pennsylvania. There are approximately 3,700 students in the School District, with approximately 1,000 attending Dover High School. Joint Stipulations of Fact ¶ 3.

123. There are nine seats on the Board. The nine members of the Board in 2004 were Alan Bonsell, William Buckingham, Sheila Harkins, Jane Cleaver, Heather Geesey, Angie Yingling, Noel Wenrich, Jeff Brown, and Casey Brown. Casey and Jeff Brown resigned on October 18, 2004, Wenrich and

Cleaver resigned on October 4, 2004, and Yingling resigned verbally in November 2004 and in writing in February 2004. 34:113 (Harkins); Cleaver Dep. (6/9/05) at 15.

124. During 2004, Alan Bonsell was President of the Board. As President, he appointed William Buckingham Chair of the Board's Curriculum Committee. 32:86-87. He also appointed the other members of the Curriculum Committee: Sheila Harkins and Casey Brown. 32:86-87 (Bonsell); 34:39 (Harkins). As Board President, he also served as an *ex officio* member of the Curriculum Committee. 32:116 (Bonsell).

125. Plaintiff Tammy J. Kitzmiller is a resident of Dover, Pennsylvania. Her two children attend the tenth and twelfth grades at Dover Area High School. 3:112-113. Kitzmiller did not attend any Board meeting until November 2004. 3:119. She first learned of the biology curriculum controversy from reading the local newspapers. 3:114-15.

126. Plaintiffs Bryan and Christy Rehm are residents of Dover, Pennsylvania. They have a child in the ninth grade at Dover Area High School, a child in the third grade and a child in the first grade at schools in the Dover Area School District, and a child of pre-school age. 4:35-36 (B. Rehm); 6:59-60 (C. Rehm). Bryan Rehm learned of the biology curriculum controversy by virtue of being a member of the science faculty at Dover Area High School. 4:39-41.

Before and after his resignation, he regularly attended Board meetings. 4:41, 63.

(B. Rehm). Christy Rehm learned of the biology curriculum controversy by virtue of discussions she had with her husband, former Dover science teacher Bryan Rehm. 6:61 (C. Rehm). She also regularly attended board meetings in 2004. 6:62, 74-75. (C. Rehm).

127. Plaintiffs Deborah F. Fenimore and Joel A. Leib are residents of Dover, Pennsylvania. They are the parents of a child in the eighth grade in the Dover Area School District and intend to send their child to Dover Area High School. 17:141-142 (Leib). Leib first learned of a change in the biology curriculum from reading local newspapers. 17:142-44 (Leib).

128. Plaintiff Steven Stough is a resident of Dover, Pennsylvania. He has a child in the ninth grade in the Dover Area School District. 15:110 (Stough). Stough did not attend any board meetings until December 2004. Prior to that, he had learned of the biology curriculum change by reading the local newspapers. 15:112-14.

129. Plaintiff Beth A. Eveland is a resident of York, Pennsylvania. She is the parent of a child in the second grade in the Dover Area School District and a child of pre-school age and intends to send her children to Dover Area High School. 6:92-93 (Eveland). Eveland attended her first board meeting on June 14,

2004. Prior to that, she had learned of the issues relating to the purchase of the biology books from reading the *York Daily Record*. 6:24.

130. Plaintiff Cynthia Sneath is a resident of Dover, Pennsylvania. She is a parent of a child in the second grade in the Dover Area School District and a child of pre-school age. She intends to send her children to Dover Area High School. 15:75-76 (Sneath). Sneath attended her first board meeting on October 18, 2004. Prior to that, she had learned of the biology curriculum controversy from reading the local newspapers. 15:77-78.

131. Plaintiff Julie Smith is a resident of York, Pennsylvania. She is a parent of a child in the eleventh grade at Dover Area High School. 6:35 (J. Smith). Smith did not attend a Board meeting in 2004. 6:42-43. She learned of and followed the biology curriculum controversy by reading the local newspapers. 6:35-38.

132. Plaintiffs Aralene (“Barrie”) D. and Frederick B. Callahan are residents of Dover, Pennsylvania. They are parents of a child in the eleventh grade at Dover Area High School. 3:123-124 (B. Callahan); 8:103 (F. Callahan). Aralene Callahan learned of the biology curriculum controversy by virtue of her status as a former board member and from attending board meetings. 3:132-35, 146. Fred Callahan learned of the biology curriculum controversy by virtue of

discussions he had with his wife, former school board member, Aralene Callahan, and from attending board meetings. 8:104-10.

B. Bonsell's and Buckingham's Personal Religious Beliefs Conflict With the Theory of Evolution

133. Bonsell believes in creationism based on the Bible, as a matter of personal religious belief. 33:54-55 (Bonsell). One aspect of his personal religious belief in creationism is that species were formed as they now exist. 33:55 (Bonsell). Another aspect of his personal religious belief in creationism is that species including man do not share common ancestors. 33: 55 (Bonsell). He believes as part of his personal religious belief in creationism that birds were formed with their feathers, beaks and wings, that fish were formed with their fins and scales, and that humans were created in their present form. 33:55-56 (Bonsell). And he also believes as a matter of personal religious belief in creationism that the earth is not billions of years old but only thousands of years old. 33:57 (Bonsell). He believes that his personal religious belief in creationism conflicts with the theory of evolution insofar as it maintains that all living things, including humans, share common ancestry. 33:57-58 (Bonsell).

134. Buckingham believes in a literal reading of the Book of Genesis. 29:8 (Buckingham). He understands that the theory of evolution teaches that man and other species evolved from a common ancestor, and that conflicts with his personal religious beliefs. 29:6 (Buckingham).

C. Beginning in January 2002, Bonsell Repeatedly Expressed an Interest in Injecting Religion Into the Dover Schools

135. The Board held a retreat on January 9, 2002, just several weeks after Bonsell joined the Board. At that meeting, each board member was given several minutes to identify and discuss any issues of interest to them. 32:69 (Bonsell). According to Superintendent Nilsen's contemporaneous notes, Bonsell identified "creationism" as his number one issue. P21. Bonsell identified "school prayer" as his number two issue. P21. Bonsell does not dispute that he raised those subjects, although he claims he cannot recall doing so. 32:70 (Bonsell). Casey Brown testified that she recalled that Bonsell "expressed a desire to look into bringing prayer and faith back into the schools," that Bonsell mentioned the Bible and creationism, and felt "there should be a fair and balanced presentation within the curriculum." 7:17-18 (C. Brown).

136. Bonsell raised the subject of creationism again at a board retreat on March 26, 2003. This year, Bonsell again identified "creationism" as one of his issues of interest, as reflected in P25, Dr. Nilsen's contemporaneous notes. 35:50-53 (Baksa). Again, Bonsell does not dispute that he raised that issue, although he claims that he cannot recall doing so. 32:75 (Bonsell).

137. Former board member Jeff Brown testified that he recalled Bonsell saying at the March 26, 2003 retreat that he felt creationism "belong in biology class alongside evolution." 8:50-51 (J. Brown).

138. According to the testimony of plaintiff Aralene “Barrie” Callahan, at the March 26, 2003 board retreat, Bonsell said that he wanted creationism taught 50/50 with evolution in biology class. 3:126-27 (B. Callahan). Callahan located her copy of the agenda for the March 26, 2003 board retreat (P641), on which she took notes during the meeting. 3:128-30 (B. Callahan). The notes shows that Bonsell said at that meeting: “50-50 creationism vs. evolution” and “does not believe in evolution.” 3:127-28.

139. Barrie Callahan’s testimony and handwritten notes find corroboration not only in P25, Nilsen’s contemporaneous note that Bonsell raised the issue of “creationism,” but also in P26, a memo that Trudy Peterman, then the principal of Dover High School, sent to Assistant Superintendent Baksa and Science Department Chair Bertha Spahr with a copy to Superintendent Nilsen on April 1, 2003. The memo reports that Peterman learned from Spahr that Baksa had said on March 31, 2003 that an unidentified board member “wanted fifty percent (50%) of the topic of evolution to involve the teaching of Creationism.”

140. Spahr confirmed that she had a conversation with Baksa, as reported in the Peterman memo (P26), and that Baksa told her that Bonsell wanted to have creationism share equal time with evolution in the curriculum. 13:72-73 (Spahr).

141. Baksa also confirmed that he had a conversation with Spahr as reported in the Peterman memo (P26) in which he told her that Bonsell was looking “for a 50/50 split with Darwin and some alternative.” 35:53-56 (Baksa). Bonsell is thus without a doubt the unnamed board member referred to in P26.

142. The only thing that Baksa does not recall is Bonsell identifying “creationism” as the subject he wanted to share equal time with evolution. 26:83 (Baksa). In fact, he claims that he cannot recall Bonsell mentioning “creationism” at any time up until April 1, 2003. 26:83 (Baksa).

143. Baksa’s testimony on this point is not credible, for several reasons.

(a) First, it is clear that Bonsell raised the subject of creationism by name at the board retreats on January 9, 2002 and March 26, 2003, because Nilsen wrote it down and Bonsell does not dispute it. 32:70, 73-75 (Bonsell).

(b) Second, Baksa attended the retreat on March 26, 2003, the evening of the same day he attended a seminar on creationism at Nilsen’s suggestion. 35:50-51 (Baksa). Yet he claims not to recall Bonsell raising creationism, even though Nilsen and Callahan recorded it in their notes.

(c) Third, Baksa received the Peterman memo (P26) on or around April 1, 2003, but he never spoke to either Peterman or Spahr about the

accuracy of the statement that this unnamed board member wanted creationism to share equal time in the curriculum with evolution. 35:56-58 (Baksa).

144. In addition to raising “creationism” at the board retreats in 2002 and 2003, and stating at the board retreat in 2003 that he wanted evolution to share equal time in the curriculum with evolution, Bonsell raised the subject of creationism on numerous other occasions.

(a) When he ran for the Board in 2001, Bonsell told Jeff Brown he did not believe in evolution and he wanted creationism taught side-by-side with evolution in biology classes. He also said he felt taking prayer and Bible reading out of school was a mistake and he wanted it reinstated in the Dover public schools. 8:48-49 (J. Brown).

(b) Later, Bonsell told Jeff Brown he wanted to be on the Board Curriculum Committee because he had concerns about the teaching of evolution and he wanted to see some changes in that area. 8:55 (J. Brown).

(c) Nilsen complained to Jeff Brown that each Board President had a new set of priorities, and Bonsell had creationism as his priority. 8:53 (J. Brown).

145. Given all the evidence that Bonsell repeatedly expressed interest in creationism, defendants were forced to concede in their opening statement that Bonsell “had an interest in creationism” and that he “wondered

whether it could be discussed in the classroom.” (1:19) And yet when pressed about whether he had a memory of having an interest in creationism, Bonsell could only say that “[t]hat could be” and “probably.” 33:47-48. His inability to recall his interest in this subject, despite the admission by his counsel that he had such an interest, constitutes further proof that he intended to introduce creationism into the curriculum at Dover High School – particularly given the numerous inconsistencies in his testimony discussed *infra* at ¶¶ 271-72, 276-81.

146. Bonsell not only wanted prayer in schools and creationism in science class, he wanted to inject religion into the social studies curriculum. Bonsell told Baksa that he wanted the students to learn more about the Founding Fathers. 36:17 (Baksa). Toward that end, Bonsell gave Baksa P179, a book entitled *Myth of Separation* by David Barton. 36:14-15 (Baksa).

147. One chapter of the book proclaims “We are a Christian Nation.” 36:16 (Baksa); P179, at 47. The last line of that chapter reads: “Our fathers intended that this nation should be a Christian nation, not because all who lived in it were Christians, but because it was founded on and would be governed and guided by Christian principles.” 36:16 (Baksa); P179, at 82. In a chapter titled “The Solution,” the book states: “We must recall our foundation and former values and establish in our thinking the conviction that this nation’s institutions must return to their original foundation -- the principles expressed through the

Bible.” 36:16 (Baksa); P179, at 260. And as part of that proposed solution, the book states that “morality acquired only with emphasis from religious principles must again become an emphasis in education.” 36:17 (Baksa); P179, at 265.

148. The book also contains the following statement: “The doctrine of separation of church and state is absurd; it has been repeated often; and people have believed it. It is amazing what continually hearing about separation of church and state can do to a nation.” 36:15-16 (Baksa); P179, at 46.

149. The *Myth of Separation* was the only book Bonsell gave Baksa about the founding fathers. 36:17 (Baksa).

150. In P91, an email to one of the social studies teachers on October 19, 2004, the day after the Board passed the resolution at issue in this case, Baksa said: “all kidding aside, be careful what you ask for. I’ve been given a copy of the *Myth of Separation* by David Barton to review from board members. Social Studies curriculum is next year. Feel free to borrow my copy to get an idea where the board is coming from.” 36:14 (Baksa); P91.

D. Fall 2003 – Bonsell Confronted the Teachers About Evolution

151. Beginning shortly after Baksa took a position with the Dover Area School District in the fall of 2002, he and Bonsell, then Chair of the Board Curriculum Committee, had discussions in which Bonsell expressed concern about the teaching of evolution. 26:62-64 (Baksa); 35:55 (Baksa). At some point before

March 26, 2003, Baksa gave Bonsell a copy of the biology textbook used at Dover High School. 26:63 (Baksa). Bonsell expressed concern about the presentation of Darwin in the textbook. 26:63-64 (Baksa). He felt that Darwin was presented as a fact, not a theory, and that the textbook overstated the evidence and did not cover gaps and problems or leave students room to consider other theories. 26:64 (Baksa).

152. Bonsell also expressed concern about the accuracy of carbon dating as proof of the age of the earth, and the concept of speciation. 26:64 (Baksa); 35:62-63 (Baksa). “[M]y understanding is that he had seen a video that was showing the evolution of a bear into a whale, and he found that improbable or ludicrous to think that could happen.” 35:63 (Baksa).

153. Prior to the fall of 2003, Baksa discussed Bonsell’s concerns about evolution with the teachers. 35:66 (Baksa). He actually discussed the subject with the teachers at least two times before Bonsell met with the teachers. 35:66-67 (Baksa). He told them that Bonsell had a problem with the teachers teaching the origin of life, by which Bonsell meant how species change into other species, also known as macroevolution and speciation, which are aspects of the theory of evolution. 35:67-68 (Baksa).

154. In the fall of 2003, Bonsell, then the head of the Board Curriculum Committee, had a meeting with the science teachers. 12:107-08 (J.

Miller). At the time, Bonsell had a child in the ninth grade at Dover High School who was scheduled to take biology in the spring. 12:108-09 (J. Miller). The teachers had been told either by Baksa or Spahr that earlier that year Bonsell had advocated teaching creationism 50/50 with evolution and that Bonsell believed the earth to be approximately 10,000 years old. 12:109-10 (J. Miller).

155. Baksa arranged for the meeting between Bonsell and the teachers and he attended the meeting. 35:68 (Baksa). Jennifer Miller, the senior biology teacher, acted as spokesperson for the teachers at that meeting. 12:110 (J. Miller). She testified that Bonsell expressed concern about how the teachers taught evolution. 12:110 (J. Miller). Specifically, he was concerned that the teachers conveyed something to the students in opposition to what parents presented at home leaving students with the impression that “somebody is lying.” 12:111 (J. Miller). Miller explained that the teachers taught evolution as change over time with emphasis on origin of species, not origin of life. 13:76 (Spahr); 12:111 (J. Miller). By origin of species, Miller meant “speciation” or the process by which new species originate from existing species. 12:100 (J. Miller).

156. Bonsell and Baksa came away from that meeting with the understanding that the teachers did not teach “origins of life,” which they took to mean that the teachers only taught microevolution, or change within species, and did not teach macroevolution, including common ancestry. 33:114-15 (Bonsell);

35:68 (Baksa). That information pleased Bonsell because the concept of common ancestry offends his personal religious belief that God created man and other species in the forms they now exist and that the earth is only thousands of years old. 33:54-58, 115 (Bonsell).

157. Spahr testified that the teachers left the meeting with Bonsell feeling that they had answered his questions and concerns. 13:76 (Spahr). Baksa testified that he felt that the teachers had satisfied Bonsell's concerns and that there had been a meeting of the minds. 35:68-69 (Baksa). Bonsell thought the meeting ended on good terms. 32:83-84 (Bonsell).

158. Prior to the fall of 2003, no Dover administrator or board member had ever met with the biology teachers and questioned how they taught evolution. 36:75 (Linker).

159. Before the meeting with Bonsell in the fall of 2003, Linker made it his practice to explain in biology class that creationism was based on "Bibles, religion, [and] Biblical writings," and that it was illegal to discuss creationism in public school. 36:83.

160. After the meeting with Bonsell, Linker changed his practice by no longer distinguishing creationism as a separate non-scientific religious theory at the beginning of the evolution section. 36:82-85. He also stopped using helpful Discovery Channel videos as teaching aides. 36:82-85. Linker testified that he

changed his practice because the unusual meeting with board member Bonsell had alerted him to a controversy surrounding how he taught evolution. 36:84-85.

161. Linker also testified that other biology teacher, Jen Miller, changed her practices of having the students create an evolution time line in the hallway, which addressed how various species developed over millions of years. 36:86-87.

E. Early 2004 – Buckingham Contacted the Discovery Institute

162. Sometime before June 2004, Seth Cooper, an attorney with the Discovery Institute, contacted Buckingham by telephone. 29:133 (Buckingham); 30:9 (Buckingham). The defendants asserted privilege over the substance of that call and two subsequent calls between the Discovery Institute and Buckingham. 29:138-39 (Buckingham). Buckingham testified that in all of those calls he sought only legal advice and the Discovery Institute provided only legal advice. 29:133-143 (Buckingham). During those calls, Buckingham and Cooper discussed the legalities of teaching intelligent design and the legalities of teaching gaps in Darwin's theory. 29:137 (Buckingham).

163. After the first call with the Discovery Institute, Buckingham received a DVD, a videotape, and a book by mail from the Discovery Institute. 29:130-131 (Buckingham). He gave the materials to Nilsen to give to the science teachers. 29:131 (Buckingham); 25:100-101 (Nilsen); 26:114-115 (Baksa).

164. Sometime late in the 2003-04 school year, Baksa arranged for the science teachers to watch a video from the Discovery Institute entitled *Icons of Evolution*. 4:48-49 (B. Rehm).

165. Sometime later, but before the October 18, 2004 board meeting, two lawyers from the Discovery Institute came and made a legal presentation to the Board in executive session. 33:111-112 (Bonsell).

F. June 2003 to June 2004 – The Board Held Up the Purchase of the Biology Textbook Because of Its Treatment of Evolution

166. In June 2003, the Board approved funds for new science textbooks, including a biology textbook. 3:130 (B. Callahan). Nilsen had placed textbook purchases on a seven-year cycle and this was the year for the science textbooks. 3:130 (B. Callahan).

167. Although the Board approved the funds, it did not actually approve the purchase of a biology textbook. 3:130-131 (B. Callahan). Barrie Callahan repeatedly raised the subject of the approval of the biology textbook along with some chemistry and consumer science books. 3:131 (B. Callahan); 32:85 (Bonsell). She even made a motion in August 2003 for the approval of these books, but no other board member seconded it. 3:131 (B. Callahan). Callahan raised the issue several times after she left the Board in November 2003. 3:132-133 (B. Callahan).

168. The faculty and administration recommended that the Board approve the purchase of the 2002 edition of *Biology* written by Kenneth Miller and Joseph Levine and published by Prentice Hall. 29:33 (Buckingham).

169. Buckingham admitted that, as of June 2004, the Board was delaying approval of *Biology* recommended by the faculty and administration because of the book's treatment of evolution and the fact that it did not cover any alternatives to the theory of evolution. 29:33-34 (Buckingham).

G. June 2004 Board Meetings – Buckingham and Other Board Members Spoke Out in Favor of Teaching Creationism

170. As proof that the defendant Board acted with the purpose of promoting religion, the plaintiffs introduced evidence that at public board meetings held on June 7 and 14, 2004, members of the Board spoke openly in favor of teaching creationism and disparaged the theory of evolution on religious grounds.

171. On these important points, the plaintiffs introduced the testimony of plaintiffs Fred and Barrie Callahan, Bryan and Christy Rehm, Beth Eveland, former school board members Casey and Jeff Brown and William Buckingham, teachers Bertha Spahr and Jennifer Miller, and newspaper reporters Heidi Bernhard-Bubb and Joseph Maldonado. With the exception of Buckingham, the testimony of these witnesses was credible and convincing.

172. As discussed in detail *infra* at ¶¶ 271-81 plaintiffs effectively challenged the credibility of Buckingham as well as defendants' witnesses Bonsell, Harkins, Geesey, Cleaver, and Nilsen.

173. The plaintiffs also introduced into evidence newspaper articles on the subject of these meetings by Bernhard-Bubb and Maldonado, published in *The York Dispatch* and *The York Daily Record* in June 2004 (P44/P804⁴, P45/P805, P46/P790, P47/P791, P51/P792, P53/P793, P54/P806, and P55), a television news clip from channel Fox 43 (P145), a letter to the editor from plaintiff Beth Eveland published in *The York Sunday News* (P56), and a response to Eveland's letter by board member Geesey also published in *The York Sunday News* (P60). These documents corroborate the testimony of plaintiffs' witnesses and impeach the credibility of Buckingham, Bonsell, Harkins, Nilsen, Geesey, and Cleaver.

174. Plaintiffs also rely on testimony they developed in cross examination of defendants' witnesses, most particularly Assistant Superintendent Baksa, who testified that Buckingham spoke about creationism at the June 7 board meeting. 35:77-78 (Baksa).

⁴ Two exhibit numbers separated by a slash indicates that Plaintiffs introduced different formats of the same article under different exhibit numbers. For example, P44 is a copy of an article printed off of a computer and P804 is a photocopy of the article as it appeared in the printed newspaper.

175. Plaintiffs proved the following about the board meeting on June 7, 2004:

(a) Approval of several science textbooks appeared on the agenda for the meeting, but not approval of the biology textbook. P42, at 8-9.

(b) Barrie Callahan asked whether the Board would approve the purchase of the 2002 edition of *Biology* by Miller and Levine. Buckingham told Callahan that the book was “laced with Darwinism” and he spoke in favor of purchasing a textbook that included a balance of creationism and evolution. P46/P790; 35:76-78 (Baksa); 24:45-46 (Nilsen); 3:135-36 (B. Callahan); 4:51-52 (B. Rehm); 6:62-63 (C. Rehm); 7:25-26 (C. Brown). Buckingham admitted as much. 29:36, 45-46 (Buckingham).

(c) Buckingham said the Board Curriculum Committee would look for a book that presented a balance between creationism and evolution. P45/P805; 30:96 (Bernhard-Bubb); P46/P790; 31:59-60 (Maldonado).

(d) Bonsell said that there were only two theories that could possibly be taught (creationism and evolution) and as long as both were taught as theories there would be no problems for the district. P46/P790; 6:65 (C. Rehm);

(e) Buckingham spoke in favor of having a biology book that included creationism. P47/P791; 8:60-61 (J. Brown); 7:33 (C. Brown); 3:137-138 (B. Callahan); 30:89-90, 105-06, 110-11 (Bernhard-Bubb); 31:60, 66 (Maldonado).

(f) Wenrich spoke in favor of having a biology book that included creationism. P47/P791; 8:60 (J. Brown); 7:33 (C. Brown); 30:89-90, 105-06, 110-11 (Bernhard-Bubb); 31:66 (Maldonado).

(g) Bonsell spoke in favor of having a biology book that included creationism. P47/P791; 8:60 (J. Brown); 7:33 (C. Brown); 3:137-38 (B. Callahan); 30:89-90, 105-06, 110-11 (Bernhard-Bubb); 31:66 (Maldonado).

(h) Superintendent Nilsen said that the district was looking for a textbook that presented “all options and theories.” P44. He never challenged the accuracy of that quotation. 25:119-20 (Nilsen).

(i) Buckingham said that separation of church and state is a myth and not something he supports. P44/P804; P47/P791. 3:141-42 (B. Callahan); 7:32-33 (C. Brown); 31:66-67 (Maldonado). Buckingham admitted that he said this. 29:35-36 (Buckingham).

(j) Buckingham said: “It is inexcusable to have a book that says man descended from apes with nothing to counterbalance it.” P44/P804; 30:77-78 (Bernhard-Bubb).

(k) After the meeting, Buckingham said: “This country wasn’t founded on Muslim beliefs or evolution. This country was founded on Christianity and our students should be taught as such.” P46/P790; 31:63 (Maldonado).

176. Plaintiffs proved the following about the board meeting on June 14, 2004:

(a) The subject of the biology textbook did not appear on the agenda of this meeting, but members of the public made comments and the Board continued to debate the subject of the biology textbook;

(b) Buckingham's wife Charlotte set the tone for the meeting during the public comment section when she gave a speech in which she said "evolution teaches nothing but lies," quoted from Genesis, asked "how can we allow anything else to be taught in our schools," recited gospel verses telling people to become born again Christians, and stated that evolution violated the teachings of the Bible. P53/P793; 4:55-56 (B. Rehm); 6:71 (C. Rehm); 7:34-35 (C. Brown); 8:104-05 (F. Callahan); 8:63 (J. Brown); 30:107-08 (Bernhard-Bubb); 31:76-77 (Maldonado); 33:37-43 (Bonsell); 29:82-83 (Buckingham); 12:125 (J. Miller); 13:84 (Spahr). At her deposition, Charlotte Buckingham admitted that she made a speech at the June 14 board meeting arguing that creationism as set forth in Genesis should be taught in Dover High School and that she read quotations from scripture as part of her speech. C. Buckingham Dep. (4/15/05) at 19-22.

(c) During Charlotte Buckingham's religious speech, board members William Buckingham and Geesey said "amen." 7:35 (C. Brown).

(d) William Buckingham stood by his opposition to the 2002 edition of *Biology* by Miller and Levine. P54/P806.

(e) Bonsell and Wenrich said that they agreed with William Buckingham that creationism should be taught to balance evolution. P806/P54;

(f) William Buckingham said: “Nowhere in the Constitution does it call for a separation of church and state.” P793/P53; 31:74 (Maldonado); 12:126 (J. Miller); 13:85 (Spahr).

(g) William Buckingham said this country was founded on Christianity. P806/P54; 12:126 (J. Miller); 13:85 (Spahr); 30:106 (Bernhard-Bubb).

(h) William Buckingham said “I challenge you (the audience) to trace your roots to the monkey you came from.” P793/P53; 31:76 (Maldonado). Buckingham admitted that he said this. 29:71 (Buckingham).

(i) William Buckingham said that while growing up his generation read from the Bible and prayed during school. P793/P53; 31:75 (Maldonado).

(j) William Buckingham said “liberals in black robes” were “taking away the rights of Christians.” P793/P53; 35:81-82 (Baksa); 6:73 (C. Rehm); 31:75 (Maldonado).

(k) William Buckingham said words to the effect of “2,000 years ago someone died on a cross. Can’t someone take a stand for him?” or “Nearly 2,000 years ago someone died on a cross for us; shouldn’t we have the courage to stand up for him?” P793/P53; P806/P54; 4:54-55 (B. Rehm); 6:73 (C. Rehm); 6:96 (Eveland); 7:26-27 (C. Brown); 8:63 (J. Brown); 8:105-06 (F. Callahan); 30:105, 107 (Bernhard-Bubb); 31:75, 78-79 (Maldonado); 12:126 (J. Miller); 13:85 (Spahr).

177. Buckingham, Bonsell, and other witnesses for defendants denied the reports in the news media and contradicted the great weight of the evidence about what happened at the June board meetings. As explained *infra* ¶¶ 271-81, the record shows that these witnesses contradicted themselves in important respects, in several cases lied outright, and should not be believed.

H. June 2004 Curriculum Committee Meeting – Creationism Morphed Into Intelligent Design

178. The Board Curriculum Committee met with the teachers near the end of the school year in June 2004, very soon after the board meetings on June 7 and 14. 12:114 (J. Miller); 35:82 (Baksa). The purpose of the meeting was to discuss P132, a list of Buckingham’s concerns about the textbook *Biology*. 12:114-15 (J. Miller). At a previous meeting in May 2004, the teachers had recommended that the Board purchase the 2002 edition of *Biology*. 26:118

(Baksa). Prior to the June meeting, the Science Department provided Buckingham with a copy of the teacher's edition of *Biology* for him to review. 13:80 (Spahr).

179. All of Buckingham's concerns about the textbook *Biology* related to the theory of evolution. 7:45 (C. Brown). Buckingham objected to a standard timeline in the book because it listed Darwin's first publication of his findings in 1859 but did not mention creationism or God. 7:45-47. He objected to the reference to a species of finch known as Darwin's finch simply because it refers to Darwin. 7:47-48. He objected to the textbook because it did not give "balanced presentation," by which he meant that it did not include the "theory of creationism with God as creator of all life." 7:48.

180. At the June meeting, Bertha Spahr asked Buckingham where he had gotten a picture of the evolution mural that had been destroyed in 2002 by Larry Reeser, the head of buildings and grounds for the Dover Area School District. 13:82-83 (Spahr); 12:115-18 (J. Miller). According to Jennifer Miller, Buckingham responded: "I gleefully watched it burn." 12:118 (J. Miller). According to Casey Brown, Buckingham expressed sympathy with Reeser's actions. 7:51 (C. Brown). Buckingham disliked the mural because he thought it advocated the theory of evolution, particularly common ancestry. 26:120 (Baksa).

181. Most of the meeting centered around Buckingham's concern that the teachers were teaching what he referred to as "origins of life," which for

him apparently includes origin of species and common ancestry of man and other species. 12:118 (J. Miller). Bertha Spahr testified that, at one point in the meeting, she said to Buckingham: “If you say man and monkey one more time in the same sentence, I’m going to scream.” 14:15 (Spahr). Jennifer Miller, the senior biology teach, reiterated what she had explained to Bonsell in the fall of 2003 – that the teachers did not address origins of life but they did address the origin of species. 12:120 (J. Miller).

182. At the meeting, Baksa provided those in attendance with copies of P138, a survey of biology books used in private religious schools in York County. 12:122 (J. Miller). He explained his reason for collecting this information as follows: “I went out and looked for other organizations to look at other textbooks that might have a different treatment of Darwin that would be more acceptable to the board curriculum committee.” 26:118-19 (Baksa).

183. Baksa also provided those in attendance at the meeting with copies of P136, a product profile of a biology textbook used at Bob Jones University. 12:120-121 (J. Miller).

184. Baksa also provided those in attendance at the meeting with copies of P149, a document entitled “Beyond the Evolution vs. Creation Debate.” 12:124 (J. Miller). Both Sheila Harkins and Casey Brown acknowledged having received P149 at some point, although they had different memories of when that

occurred. 34:46-50 (Harkins); 7:60-61, 64-66, 69 (C. Brown). The second page of this document is entitled “Views on the Origin of the Universe and Life.” It explains the difference between “Young Earth Creationism (Creation Science),” “Progressive Creationism (Old Earth Creation),” “Evolutionary Creation (Theistic Creation),” “Deistic Evolution (‘Theistic Evolution’),” and “Dysteleological Evolution (Atheistic Evolution).” Under each of these categories, it lists examples. The example given under Progressive Creation (Old Earth Creation) is “Intelligent Design Movement, Phillip Johnson, Michael Behe.” P149. As a result, the Board Curriculum Committee knew that intelligent design is a form of creationism, which, according to statements at the June meetings, is what they wanted to teach.

185. P149 is proof that not only did the Board Curriculum Committee know that intelligent design is religious, but they also knew it is sectarian, because P149 shows the different interpretations of Genesis and different theologies and philosophies underlying the various categories of views on the origin of the universe and life. For example, P149 shows that, as regards the Books of Genesis, Young Earth Creation is associated with “Strict Literalism” and Progressive Creation (including intelligent design) is associated with “General Literalism” while Evolutionary Creation (including Roman Catholicism) is not associated with a literal reading of the Books of Genesis.

186. At the meeting, Buckingham sought assurance from the teachers that they were only teaching evolutionary changes within species and were not teaching origin of life, by which he means common ancestry, speciation, and macroevolution. 26:121 (Baksa). The teachers had already watched the video *Icons of Evolution* that Buckingham received from the Discovery Institute, but at Buckingham's insistence they agreed to review it again and consider using in class any parts from that video that aligned with their curriculum. 26:122 (Baksa). Baksa believed that the teachers had already determined that there were no parts of the video that would be appropriate to use in class, and that they agreed to Buckingham's condition so that he would approve the purchase of the Miller and Levine textbook *Biology* that the students needed. 35:93-94 (Baksa).

187. Buckingham also demanded that the teachers agree that there would never again be a mural depicting evolution in any of the classrooms. 36:56-57 (Baksa). In exchange, Buckingham had suggested that he would agree to support the purchase of the biology textbook the students needed. 36:57.

188. According to Baksa, there was some mention of the words intelligent design at this meeting, but he cannot recall who raised the subject. 35:96-97 (Baksa). The meeting took place after the Discovery Institute first made contact with Buckingham, but Baksa cannot recall having received any materials about intelligent design by this time. 35:97. At the time, he knew nothing about

intelligent design and to the best of his knowledge no one else at the meeting knew anything about it either. 35:97-98. To the best of his knowledge at the time, “intelligent design” amounted to nothing more two words replacing the word “creationism” used by Buckingham at a board meeting earlier that month. 35:98.

I. Board Member Geesey Published a Letter to the York Sunday News Advocating the Teaching of Creationism

189. On June 20, 2004, plaintiff Eveland published P56, a letter to the editor of the *York Sunday News*. She wrote the letter in response to P46, an article from the *York Daily Record* dated June 9, 2004. 6:96-98 (Eveland). In her letter, Eveland wrote:

In partnership with family and community to educate students, we emphasize sound, basic skills and nurture the diverse needs of our students as they strive to become lifelong learners and contributing members of our global society. What a slap in the face to many of the parents and taxpayers of the Dover area. How sad that a member of our own school board would be so closed-minded and not want to carry on the mission of Dover schools.

His ignorance will not only hold back children attending Dover area schools, but also reinforce other communities’ views that Dover is a backwards, close-minded community. If it was simply a matter of selecting a text that gives two contradicting scientific theories equal time, that would be an entirely different matter, but it’s not. Creationism is religion, plain and simple.

Mr. Buckingham’s comments offend me, not because they are religious in nature, but because it is my duty to teach my children about religion as I see fit, not the Dover Area School District during a biology class.

P56; 6:98-100 (Eveland).

190. In response, board member Geesey published the following letter, P60, in the June 27, 2004 *York Daily Record*:

This letter is in regard to the comments made by Beth Eveland from York Township in the June 20 York Sunday News. I assure you that the Dover Area School Board is not going against its mission statement. In fact, if you read the statement, it says to educate our students so that they can be contributing members of society.

I do not believe in teaching revisionist history. Our country was founded on Christian beliefs and principles. We are not looking for a book that is teaching students that this is a wrong thing or a right thing. It is just a fact. All we are trying to accomplish with this task is to choose a biology book that teaches the most prevalent theories.

The definition of ‘theory’ is merely a speculative or an ideal circumstance. To present only one theory or to give one option would be directly contradicting our mission statement. You can teach creationism without it being Christianity. It can be presented as a higher power. That is where another part of Dover’s mission statement comes into play. That part would be in partnership with family and community. You as a parent can teach your child your family’s ideology.

6:104-105 (Eveland).

J. July 2004 – Buckingham Contacted Richard Thompson of the Thomas More Law Center and Learned about the Creationist Textbook Of Pandas and People

191. Sometime before late July 2004, Buckingham contacted Thomas More Law Center (“TMLC”) and spoke with Richard Thompson. 30:10-

12 (Buckingham). Buckingham contacted TMLC for the purpose of seeking legal advice and never received anything but legal advice; on that basis defendants' counsel asserted privilege over all communications between Buckingham and TMLC. 30:17-18.

192. In one of the early conversations between Buckingham and TMLC, Thompson told Buckingham that TMLC would represent the Board if it needed legal assistance and Buckingham accepted on behalf of the Board, although later after the litigation commenced the Board formally engaged TMLC as its counsel. 30:15-16.

193. Buckingham and the Board first learned of the creationist textbook *Of Pandas and People* from Richard Thompson sometime before late July 2004. 29:107-08; 30:10-12 (Buckingham).

194. Bonsell confirmed in testimony that the passage on pages 99 to 100 of *Pandas* ("Intelligent design means that various forms of life began abruptly through an intelligent agency, with their distinctive features already intact, fish with fins and scales, birds with feathers, beaks, and wings, etc.") is very similar to one aspect of creationism. 33:64. A young earth creationist himself, Bonsell also confirmed in testimony that a passage from *Pandas* that questions the notion of common descent, which is consistent with his personal religious belief. 33:54-56, 66-67.

K. July 2004 – The Teachers and Baksa Reviewed the Sections of the 2004 Edition of Biology that Dealt With Evolution in Response to the Board’s Concerns

195. In July 2004, the teachers discovered that there was a 2004 edition of *Biology* available. 12:127 (J. Miller); 13:30 (Spahr). The Board at its meeting on July 12, 2004 agreed to defer consideration of purchasing a new textbook until it could review this textbook. 12:127 (J. Miller).

196. That same month, Spahr, Miller, and Baksa met to review the 2004 edition of *Biology*. 12:127 (J. Miller). Together they read the sections on evolution, compared them to the same sections in the 2002 edition, and created P150, a document showing the differences between the two editions with respect to evolution. 12:127-29 (J. Miller).

L. August 2004 – Buckingham and Others Tried to Prevent Purchase of the Standard Biology Textbook

197. The Board met on Monday, August 2, 2004. One of the items on the agenda for the meeting was approval of the purchase of the 2004 edition of *Biology*. 8:64 (J. Brown).

198. A few days prior to the August 2, 2004 meeting, Casey Brown received a call from Assistant Superintendent Baksa, who told her that Buckingham had a book called *Of Pandas and People* that he recommended the school district purchase as a supplemental textbook. 7:52-53 (C. Brown); 8:64 (J. Brown).

199. Jeff Brown went to Harkins' home to pick up a copy of *Pandas*. 8:65. She told him that she wanted the school district to purchase the book. 8:66. He said: "Sheila, you don't even want to buy the books that we're supposed to buy, why do you want to buy this book that we don't even need and the state is not requiring us to buy." 8:66 (J. Brown). She told him that "this book was such an eye opening thing about what's wrong with evolution and so on and so forth." 8:67. Brown responded that "with all the statements that Bill has made that have been in the press and have actually gone wire service, I said, if we even touch the subject we're going to end up in court. And she remained adamant." 8:67.

200. At the board meeting four days later, Buckingham opposed the purchase of *Biology*, which was recommended by the faculty and administration unless the Board also approved the purchase of *Pandas* as a companion text. Only eight members of the Board were present on August 2, 2004 (Cleaver was in Florida) and the initial vote to approve the purchase of *Pandas* failed to pass on a four to four vote, with Buckingham, Harkins, Geesey, and Yingling voting against it. 8:68 (J. Brown); 29:105-06 (Buckingham); P67.

201. Buckingham stated that he had five votes in favor of purchasing *Pandas*, and that if the Board approved the purchase of *Pandas*, he would release his votes to also approve the purchase of *Biology*. 8:68-69 (J. Brown). Yingling then changed her vote, and the motion to approve the purchase of *Biology* passed.

P67; 8:69. At trial, Buckingham admitted that at the meeting he said “if he didn’t get his book, the district would not get the biology book.” 29:106 (Buckingham).

202. This email is additional evidence that the Board knew that intelligent design is a form of creationism.

M. August 26, 2004 – The Board’s Solicitor Warned the Board That It Could Lose a Lawsuit If It Pushes Intelligent Design Creationism

203. On August 26, 2004, the Board Solicitor sent an email to Superintendent Nilsen that stated, among other things, the following:

Today, I talked to Richard Thompson, President and Chief Counsel for the Thomas More Law Center. . . . *They refer to the creationism issue as “intelligent design”.* . . . They have background knowledge and have talked to school boards in West Virginia and Michigan about possible litigation. However, nothing has come about in either state. This suggests to me that no one is adopting the textbook because, if they were, one can safely assume there would have been a legal challenge by someone somewhere. . . . I know that we have given an opinion on this matter on more than one occasion. I guess my main concern at the moment, is that even if use of the text is purely voluntary, this may still make it very difficult to win a case. I say this because one of the common themes in some of the US Supreme Court decision, especially dealing with silent meditation, is that even though something is voluntary, it still causes a problem because the practice, whatever it may be, was initiated for religious reasons. One of the best examples comes out of the silent meditation cases in Alabama which the court struck down because the record showed that the statute in question was enacted for religious reasons. *My concern for Dover is that in the last several years there has been a lot of discussion, news print, etc.*

for putting religion back in the schools. In my mind this would add weight to a lawsuit seeking to enjoin whatever the practice might be.

P70 (emphasis added).

204. Nilsen shared this email with everyone present at the Board Curriculum Committee meeting on August 30, 2004, including Buckingham, Bonsell, and Harkins. 25:135-36 (Nilsen).

205. Nilsen and Baksa both admitted that they knew the email referred to the news reports of the June 2004 board meetings. 25:135-36, 138-39 (Nilsen); 35:105-06, 111-12 (Baksa).

206. This email is additional evidence that the Board knew that intelligent design is a form of creationism.

N. August 30, 2004 – The Board Curriculum Committee Forced Pandas on the Teachers as a Reference Text

207. The Board Curriculum Committee met on August 30, 2004 with Spahr, Miller, Nilsen, Baksa, Bonsell, Buckingham, Harkins, and Casey Brown. 12:133-34 (J. Miller). The principal subject discussed at the meeting was *Of Pandas and People* and how it would be used in the classroom. 12:134 (J. Miller). Spahr expressed concern that the textbook taught intelligent design and that intelligent design amounted to creationism. 12:135 (J. Miller). Buckingham wanted *Pandas* used in the classroom as a comparison text side by side with the standard biology textbook. 29:104-05 (Buckingham). The teachers strongly

opposed using *Pandas* as a companion text. 29:111 (Buckingham). As a compromise to the Board, however, the teachers agreed that *Pandas* could be placed in the classroom as a reference text. 12:136 (J. Miller); 13:88 (Spahr). They thought that if they compromised with the Board, “maybe this will go away again.” 12:136 (J. Miller). There was no discussion at the meeting about any change to the curriculum. 12:136 (J. Miller); 13:88 (Spahr).

208. Although the teachers agreed to accept *Pandas* as a reference text in the classrooms, they clearly did so only as a compromise in consideration for receiving *Biology*. 35:119-120 (Baksa). Baksa testified that no one could construe the teachers as having supported *Pandas* in any way, either as a reference text or otherwise. 35:120.

209. Baksa testified on direct examination that during this time period he did research on *Pandas* and intelligent design. Among other things, he directed his secretary to go to the webpage from the Institute for Creation Research to get information about *Pandas*. 35:113-14 (Baksa); D35. That webpage states that *Pandas* “contains interpretations of classic evidences in harmony with the creation model.” 35:114-15 (Baksa). He was asked “that was information you were aware of as you researched *Pandas*?” And he answered “yes.” 35:115 (Baksa). Baksa then contradicted this testimony on re-direct and stated that he had never read the webpage. 36:45 (Baksa). This contradiction came after Baksa

conferred with his counsel the previous evening – while still subject to cross examination – about the testimony he would give.

O. Bonsell and Buckingham Secretly Arranged for Sixty Copies of *Pandas* to be Donated to the High School

210. The October 4, 2004 board meeting agenda noted that Superintendent Nilsen had accepted a donation of 60 copies of *Pandas*. P78 at 9. There is no evidence that Bonsell or Buckingham or anyone else with knowledge of that donation disclosed the source of the donation at any time until it came out in litigation.

211. At a board meeting in November 2004, former board member Larry Snook asked about the source of the donation of *Pandas*. 30:47 (Buckingham); 33:30 (Bonsell). Neither Bonsell, Buckingham, or anyone else provided any information about the source of the donation. 30:47-48 (Buckingham); 33:30-31 (Bonsell).

212. At their depositions on January 3, 2005, which were taken pursuant to Court Order so that plaintiffs could decide whether to seek a temporary restraining order, plaintiffs' counsel asked both Buckingham and Bonsell about the source of the donation of *Pandas*. 30:50-56 (Buckingham); 33:31-35 (Bonsell). Neither Buckingham nor Bonsell provided any information about Buckingham's involvement in the donation or about a collection he took at his church. 30:50-56 (Buckingham); 33:31-35 (Bonsell).

213. In fact, Buckingham made a plea for donations to purchase *Pandas* at his church, the Harmony Grove Community Church, on a Sunday before services. 30:38-40 (Buckingham). And the people at his church donated \$850. 30:40.

214. P80 is a check made out to Donald Bonsell drawn on Buckingham's account, jointly held with his wife in the amount of \$850 with the notation *Of Pandas and People*. 30:46-47. Donald Bonsell is Alan Bonsell's father. 30:47. Buckingham gave the check to Alan Bonsell to give to his father. 30:47. Alan Bonsell admitted that Buckingham gave him a check for the purpose of buying the books. 33:29-30 (Bonsell).

215. Alan Bonsell gave the money to Donald Bonsell, who purchased the books. 33:131-32 (Bonsell).

216. Bertha Spahr received the shipment of books, unpacked the box, and discovered P144, a catalogue from the company that sold the books. 13:94 (Spahr). The catalogue lists *Pandas* under "Creation Science." 13:94-95 (Spahr); P144 at 29.

217. Bonsell testified that his father served as the conduit for the funds from Buckingham's church because: "He agreed to – he said that he would take it, I guess, off the table or whatever, because of seeing what was going on, and with Mrs. Callahan complaining at the Board meeting not using funds or

whatever.” 33:129 (Bonsell). In other words, they were trying to hide the source of the funds.

218. Clearly, Buckingham and Bonsell tried to hide the source of the donations because they knew that it showed, at the very least, that they had taken extraordinary measures to ensure that students received a creationist alternative to Darwin’s theory of evolution. As discussed *infra* at ¶ 271, both Buckingham and Bonsell failed to tell the truth about the subject of their depositions on January 3, 2005, which provides further compelling evidence that these two board members sought to conceal their blatantly religious purpose.

P. October 7, 2004 – The Board Curriculum Committee Drafted the Curriculum Change Without the Teachers Present to Object

219. In September 2004, acting on the instructions of the Board, Baksa prepared a change to the biology curriculum, which stated: “Students will be made aware of gaps in Darwin’s theory and of other theories of evolution.” P73; 35:122 (Baksa). The draft curriculum change listed no reference text. P73. Baksa initiated these changes on assignment from the Board. 35:123-24 (Baksa). There is no evidence in the record that the Board asked him to initiate the changes to improve science education in the Dover schools. The teachers clearly did not initiate these changes. 35:123. As with the *Pandas* donation, the teachers reluctantly acquiesced to a request initiated by the Board. 35:119 (Baksa).

220. On October 7, 2004, the Board Curriculum Committee met to discuss changing the biology curriculum. 35:124 (Baksa). The science teachers were not invited. 35:124 (Baksa). Casey Brown had an appointment with an eye surgeon and could not make the meeting, leaving Buckingham, Bonsell, and Harkins as the only board members present with Baksa. At the meeting, the participants discussed P81, a document showing various positions regarding the proposed curriculum change. 35:125 (Baksa); 29:113 (Buckingham). P82 is the same document, but with Bonsell's handwritten change to one of the alternatives. 29:113 (Buckingham).

221. Ultimately, the Board Curriculum Committee adopted Bonsell's alternative, with the handwritten change: "Students will be made aware of gaps/problems in Darwin's theory and of other theories of evolution, including but not limited to intelligent design." P82; 35:125 (Baksa). The Board Curriculum Committee's proposed change also called for *Pandas* to be cited as a reference text. P82. Bonsell, Buckingham, and Harkins reached agreement on the curriculum change in a matter of minutes. 35:125 (Baksa).

222. As of October 7, 2005, Buckingham thought all the board members except the Browns would support the proposed curriculum change. 29:113-17 (Buckingham). Only later did he learn that Wenrich did not support the

change because of his concern that the Board disregarded the expertise and opinions of the science teachers. 29:125-27 (Buckingham).

223. The curriculum change proposed by the Board Curriculum Committee along with the change proposed by administration and accepted by the science faculty, were circulated to the full Board by memoranda dated October 13, 2004. P84A; P84B.

Q. October 18, 2004 – The Board Forced the Curriculum Change

224. On October 18, 2004, the Board passed by a 6-3 vote a resolution that amended the biology curriculum as follows:

Students will be made aware of gaps/problems in Darwin's theory and of other theories of evolution including, but not limited to, intelligent design. Note: Origins of Life is not taught.

The board resolution also called for this subject to be covered in lecture format with *Of Pandas and People* as a reference book. 7:89-90 (C. Brown); P88; P209 at 1646; P84C.

225. Bonsell, Harkins, Buckingham, Geesey, Cleaver, and Yingling voted for the resolution. Noel Wenrich and Casey and Jeff Brown voted against the resolution. 7:89-90 (C. Brown); P88.

226. In passing the resolution, the Board deviated from its regular practice in important respects.

(a) Typically, the Board addressed curriculum changes an entire year in advance of implementation. 7:78-79 (C. Brown). The change to the biology curriculum was brought up during the 2004-05 school year to be effective that year: “The normal procedures were not followed at all in making this change.” 7:79 (C. Brown).

(b) Standard board practice called for two meetings a month, a planning meeting followed by an action meeting, with items for consideration to be listed on the agenda for discussion at the planning meeting before listing them for resolution on the agenda at the action meeting later in the month. 7:24-25 (C. Brown). The change to the biology curriculum was placed on the Board’s agenda for the first time during an action meeting; a number of witnesses recognized this as irregular. 26:11 (Nilsen); 4:3-5 (B. Callahan); 7:77-78 (C. Brown); 29:118 (Buckingham).

(c) Board practice also called for the District Curriculum Committee to meet to discuss the change. 7:72-73 (C. Brown). Superintendent Nilsen suggested that the District Curriculum Committee meet to discuss the proposed change, but the Board overruled that suggestion. 7:73 (C. Brown); 26:8-10 (Nilsen). This represented a deviation from the Board’s standard practice. 25:73-76, 26:8-10 (Nilsen); 7:10-11 (C. Brown); 29:124 (Buckingham). The administration did send the proposed change to the District Curriculum Committee,

and received feedback from two members. P151; D67; 7:80-82 (C. Brown); 35:7-8 (Baksa); P151; D67. One opposed the change and the other wanted the District Curriculum Committee to meet to discuss the proposed change. P151. There is no evidence that the Board acted on either suggestion.

(d) The teachers were not included in the process of drafting the language adopted by the Board Curriculum Committee; the Board chose not to follow the advice of their only science-education resource. 7:82-83 (C. Brown); 30:31-32 (Buckingham).

227. Witnesses for defendants testified that the rush to bring the curriculum change to a vote occurred because the issue had been debated for the past six months, and the Board was about to lose two board members, Noel Wenrich and Jane Cleaver, who had been a part of those discussions. 26:10-12 (Nilsen); 33:113-14 (Bonsell). Their record contains no evidence of any public board meetings where the Board discussed intelligent design, but the evidence shows that the Board did discuss creationism within that six month period. *See supra* at ¶¶ 170-77. Moreover, Wenrich was opposed to the expedited vote, as reflected in his parliamentary measures to have the vote delayed until the community could properly debate the issue, and consider the science teachers' position. 29:125-28 (Buckingham). In reality, Buckingham wanted the Board to vote on the resolution on October 18 because he thought he had all the votes

needed to pass the resolution adopted at the October 7 meeting of the Board Curriculum Committee. 29:113-16 (Buckingham).

228. On October 18, prior to the board meeting, the science teachers learned that the Board intended to vote for the Board Curriculum Committee's proposed change, rather than the one submitted by the administration, to which the teachers had acquiesced. 7:82-83 (C. Brown); 35:12-14, 125 (Baksa). The teachers and administration prepared a third proposal, which included the text "Origins of Life is Not Taught," and added *Pandas* as a reference text in the curriculum guide. D68. This latest proposal was not preferred by the teachers over the first proposal, or over having no change at all, but rather as a last effort to avoid the Board Curriculum Committee's proposal, which called for presentation of intelligent design. 13:58-59 (J. Miller).

229. At the October 18, 2004 meeting, science teachers Spahr and Miller, and other members of the public spoke up against the curriculum change. 13: 41-42 (J. Miller); 13:88-93 (Spahr). In her statement to the Board, Spahr made clear that the teachers' agreement to point out "flaws/problems with Darwin's theory," not to teach origins of life, and have *Pandas* available as a reference text, were all compromises with the Board Curriculum Committee, after what she described as "a long and tiresome process." 13:91-92 (Spahr). She also stated that the change was being railroaded through without input from the teachers or the

District Curriculum Committee. 13:91-93. Neither Superintendent Nilsen nor Assistant Superintendent Baksa, nor any board member spoke up in disagreement with this description of events by the teachers. 35:126 (Baksa).

230. Baksa testified that the teachers did not support *Pandas* in any way. The teachers' first preference would have been not to have *Pandas* at all, but they made compromises to insure the purchase of the biology book. 35:119-20 (Baksa).

231. Any suggestion that the teachers supported any part of the curriculum change must be soundly rejected. 35:20-21 (Baksa). The evidence demonstrates that any "agreement" on the part of the teachers was done to compromise with board members who were trying to foist religion into the curriculum, and, in part, as *quid pro quo* for approval of a biology book that should have been provided as a matter of course. 35:119-20, 123 (Baksa).

232. At the October 18 meeting, Spahr warned that intelligent design amounted to creationism and could not be taught legally. 24:102 (Nilsen); 35:14-15 (Baksa).

233. During the October 18, 2004 meeting, the following language was added to the Board Curriculum Committee's recommended curriculum change: "Note: Origins of Life is Not Taught." From the Board's perspective, this change made it district policy that teachers were not permitted to teach major

aspects of evolution, including macroevolution, speciation, and common ancestry, including that humans share common ancestors with other living creatures.

29:121-23 (Buckingham); Buckingham Dep. (3/31/05) at 71, 74; Bonsell Dep. (4/13/05) at 67-69.

234. The 6-3 vote to approve the curriculum change occurred without any discussion by the Board about intelligent design or how presenting it to students would improve science education. 26:21 (Nilsen); 35:127-28 (Baksa); 8:36 (C. Brown); 8:76; 12:139-40 (J. Miller); 13:102 (Spahr); 32:25-26, 40; 30:23-25 (Buckingham); 31:182-83 (Geesey); 34:124-26 (Harkins). No justification was offered by any board member for the change in the curriculum when it was adopted at the October 18, 2004, board meeting. 6:105-06 (Eveland); 8:36 (C. Brown); 8:76 (J. Brown); P88.

235. Board members acknowledged that they did not have sufficient background in science to evaluate intelligent design themselves – 31:175 (Geesey); 32:50 (Cleaver); 34:117-18 (Harkins) – and most of them testified candidly that they did not understand the substance of the curriculum change that was adopted on October 18, 2004. 31:181-82 (Geesey); 32:49-50 (Cleaver); 34:124-25 (Harkins).

236. Instead, other board members adopted the position of Bonsell and Buckingham for their information about intelligent design and their decision to incorporate it as part of the high school biology curriculum. 31:154-68 (Geesey).

237. They did so in the face of strenuous opposition from the district's high school teachers. 31:186-90 (Geesey); 35:127-28 (Baksa).

238. The Board never heard from any persons or organization with scientific expertise about the change to the curriculum, except the district's science teachers, who opposed the change. 29:109 (Buckingham). The only outside organizations the Board consulted prior to the vote were the Discovery Institute and TMLC, and they only consulted those organizations for legal advice, not information about science education. 33:111-12 (Bonsell); 29:130, 137-43, 30:10-14 (Buckingham). The Board received no materials, other than *Pandas*, to assist them in making their vote. 35:127-28 (Baksa); 8:36-37 (C. Brown); 33:112-14 (Bonsell).

239. No one on the Board or in the administration ever contacted the National Academy of Sciences, the American Association for the Advancement of Science, the National Science Teachers' Association, the National Association of Biology Teachers, or any other organization for information about intelligent design or science education. 33:113 (Bonsell); 30:24-27 (Buckingham). All of these organizations have information about teaching evolution readily available on

the Internet and they include statements opposing the teaching of intelligent design. 14:74-99 (Alters).

240. Board members who voted for the curriculum change that testified at trial admitted they had no grasp of the concept of intelligent design. Cleaver testified that she did not understand the concept of intelligent design. 32:49-50 (Cleaver)⁵. Geesey testified that she did not understand the substance of the curriculum change. 31:181-82 (Geesey); 29:11-12 (Buckingham); Buckingham Dep. (1/3/05) at 59-61; 34:48-49 (Harkins); 33:112-113 (Bonsell); 26:21 (Nilsen). Buckingham admitted that he had no basis to know whether intelligent design amounted to good science. 30:32-33. As of the time of his first deposition, two and a half months after the policy was voted in. Nilsen's entire understanding of intelligent design was that "evolution has a design." 26:49-50.

241. In voting for the curriculum change, Geesey deferred completely to Bonsell and Buckingham. 31:154-55, 161-62, 168, 184-87, 190 (Geesey). Cleaver voted for the change despite the objections of the teachers based on assurances from Bonsell. 32:23-25 (Cleaver). She did not know

⁵ During her testimony, Cleaver consistently referred to the concept as "intelligence design" although the trial transcript records her as saying "intelligent design." *See e.g.*, 32:17 (Cleaver).

anything about *Pandas* except that Bertha Spahr had said it was not a good science book and should not be used in high school. 32:45-46 (Cleaver).

242. Nilsen and Baksa opposed the curriculum change. (35:126).

Baksa still feels the curriculum change was wrong. 35:127 (Baksa).

243. Both Casey Brown and Jeff Brown resigned at the conclusion of the October 18, 2004 board meeting. In her resignation speech, Casey Brown stated:

There has been a slow but steady marginalization of some board members. Our opinions are no longer valued or listened to. Our contributions have been minimized or not acknowledged at all. A measure of that is the fact that I myself have been twice asked within the past year if I was 'born again.' No one has, nor should have the right, to ask that of a fellow board member. An individual's religious beliefs should have no impact on his or her ability to serve as a school board director, nor should a person's beliefs be used as a yardstick to measure the value of that service.

However, it has become increasingly evident that is the direction the board has now chosen to go, holding a certain religious belief is of paramount importance.

P680; 7:92-93 (C. Brown).

244. At the next meeting, board member Noel Wenrich resigned and stated:

I was referred to as unpatriotic, and my religious beliefs were questioned. I served in the U.S. Army for 11 years and six years on this board. Seventeen years of my life have been devoted to public service, and my religion is personal. It's between me, God, and my pastor.

P810; 30:126-30 (Bernhard-Bubb); 4:11-12 (B. Callahan).

R. Assistant Superintendent Baksa Developed the Statement Read to Students to Suit the Board and the Teacher's Refusal to Read It

245. After the curriculum was changed, Assistant Superintendent Baksa was tasked with preparing a statement to be read to students before the evolution unit in biology. His first draft of the statement described Darwin's theory of evolution as the "dominant scientific theory." The Board removed this language from the final version. D91; (36:22-24). Baksa's draft also stated that "there are gaps in Darwin's theory for which there is *yet* no evidence." D91; (36:26-28). The Board edited out the word "yet" so that the statement reads "there are gaps in Darwin's theory for which there is no evidence." 36:26-28 (Baksa).

246. Baksa instructed Jennifer Miller to review the statement. She suggested that language be added that stated there is a "significant amount of evidence" supporting Darwin's theory. D91. Baksa understood this to be an accurate statement about the theory of evolution, but edited it out because, based on the Board's treatment of his draft, he understood the Board would not approve this language. 36:24-26 (Baksa).

247. Baksa testified that the final version of the statement communicated a very different message about the theory of evolution than the language he and Miller suggested. (36:27).

248. The final version of the statement prepared by defendants to be read to students in 9th grade biology class, stated:

The state standards require students to learn about Darwin's Theory of Evolution and to eventually take a standardized test of which evolution is a part.

Because Darwin's Theory is a theory, it is still being tested as new evidence is discovered. The Theory is not a fact. Gaps in the Theory exist for which there is no evidence. A theory is defined as a well-tested explanation that unifies a broad range of observations.

Intelligent design is an explanation of the origin of life that differs from Darwin's view. The reference book, *Of Pandas and People*, is available for students to see if they would like to explore this view in an effort to gain an understanding of what intelligent design actually involves. As is true with any theory, students are encouraged to keep an open mind.

The school leaves the discussion of the Origins of Life up to individual students and their families. As a standards-driven district, class instruction focuses on the standards and preparing students to be successful on standards-based assessments.

P124.

249. On January 6, 2005, the teachers sent a memo to the Board by which they requested the Board release them from any obligation to read the statement. 36:97 (Linker). The memo states the teachers belief that "reading the statement violates our responsibilities as professional educators as set forth in the Code of Professional Practice." 36:97 The teachers' memo also states that "Central to teaching act and our ethical obligation is the solemn responsibility to

teach the truth . . . the public educator may not knowingly and intentionally misrepresent subject matter and curriculum.” 36:98. The memo concludes with the statement “To refer the students to *Of Pandas and People*, as if it is a scientific resource, breaches my ethical obligation to provide them with scientific knowledge that that is supported by recognized proof or theory.” P121.

250. The defendants read the statement to ninth graders at Dover high school in January 2005. 35:43 (Baksa). The teachers requested not to read the statement because it violated their professional ethics. 25:56-57 (Nilsen); P121. In their place, administrators of the DASD read the statement. 35:38 (Baksa).

251. The administrators read the statement again in June 2005. 35:42 (Baksa); P131. By that time, the defendants had modified the statement to refer to other, unnamed books in the library that relate to intelligent design. P131. *Pandas* remains the only book identified by name in the statement. 35:40, 42 (Baksa). The defendants offered no evidence about where the other books can be found in the library, including whether they are placed near *Pandas*. 35:42-43 (Baksa).

252. Evolution is the only theory taught in Dover science classes for which students are told it is a “theory not a fact,” or that there are “gaps and

problems.” 36:30-32 (Baksa); 35:120 (Baksa). No board member or administrator explained why evolution was singled out in this manner. 13:102 (Spahr).

S. The Board Published a Newsletter Denigrating Evolution and Advocating Intelligent Design to the Entire Dover Community

253. In February, 2005, the Board published P127, a newsletter to the entire Dover community, which was prepared in conjunction with TMLC.

254. Typically, the Board sent out a newsletter to the Dover area community approximately four times a year. 15:98-99 (C. Sneath). In February 2005, the Board unanimously voted to mail a specialized newsletter (P127) to the community. 15:136; P821. Although formatted like a typical district newsletter, it amounts to an aggressive advocacy piece denigrating the scientific theory of evolution and advocating intelligent design.

(a) As the very first question under “Frequently Asked Questions” the newsletter demeans the Plaintiffs for protecting their Constitutional rights. “A small minority of parents have objected to the recent curriculum change by arguing that the Board has acted to impose its own religious beliefs on students.” P127 at 1.

(b) It mentions religion in the second Frequently Asked Questions, as follows: Students are told of the theory of Intelligent Design (ID). Isn’t ID simply religion in disguise.” *Id.*

(c) It suggests that opponents of the biology curriculum change are responsible for spreading misinformation. “Unfortunately, a great deal of misinformation has been spread regarding this policy.” *Id.*

(d) It suggests that scientists engage in trickery and doublespeak about the theory of evolution. “The word evolution has several meanings, and those supporting Darwin’s theory of evolution use that confusion in definition to their advantage.” *Id.*

(e) It makes the grandiose claim that intelligent design is a scientific theory on a par with evolution and other scientific theories. “The theory of intelligent design (ID) is a scientific theory that differs from Darwin’s view, and is endorsed by a growing number of credible scientists.” *Id.* at 2.

(f) It denigrates evolution in a way and makes claims that have never been advanced much less proven in the scientific community. “In simple terms, on a molecular level, scientists have discovered a purposeful arrangement of parts, which cannot be explained by Darwin’s theory. In fact, since the 1950s, advances in molecular biology and chemistry have shown us that living cells, the fundamental units of life processes, cannot be explained by chance.” *Id.*

(g) It suggests that evolution has atheistic implications. “Some have said that before Darwin, ‘we thought a benevolent God had created us.

Biology took away or status as made in the image of God’ ...or ‘Darwinism made it possible to be an intellectually fulfilled atheist.’” *Id.*

(h) It takes the obligatory cheap shot at the ACLU. “As the elected representatives of the citizens of Dover, the Board was determined to act in the best interest of students, despite threats from the ACLU.” *Id.*

(i) It all but admits that intelligent design is religious. It quotes Anthony Flew, described as a “world famous atheist who now believes in intelligent design,” as follows: “My whole life has been guided by the principle of Plato’s Socrates: Follow the evidence where it leads.” *Id.*

255. In addition, on April 23, 2005, at the request of the school board, Michael Behe made a presentation on intelligent design to Dover citizens. Joint Stipulations of Fact ¶11.

T. The Effect of the Board’s Actions on the Plaintiffs

256. Plaintiffs described the harm caused by the Board’s policy on their children, their families, and themselves in consistent, but uniquely personal ways. They believe that intelligent design is an inherently religious concept and that its inclusion in the district’s science curriculum interferes with their rights to teach their children about religion. 3:118-119 (Kitzmiller); 4:13-15 (Callahan); 6:77-78 (C. Rehm); 6:106 (Eveland); 16:26, 30 (Stough); 17:147-48 (Leib).

257. Plaintiff Cynthia Sneath's testimony is representative:

Well, you know, as a parent, you want to be proactive in your child's education. I mean, obviously I'm not an educator. I have no big degrees. I want to be proactive, but I depend on the school district to provide the fundamentals. And I consider evolution to be a fundamental of science. And I'm quite concerned about a cautionary statement. I am quite concerned about this intelligent design idea. I do think it's confusing. I don't think it adds to his education. And at the end of the day, I mean, in my mind, intelligent designer, I mean, the word 'designer' is a synonym for Creator, and, you know, that takes a leap of faith for me, you know. And I think it's my privilege to guide them in matters of faith, not a science teacher, not an administrator, and not the Dover Area School Board.

15:100-101.

258. Plaintiffs also testified that their children confront challenges to their religious beliefs at school because of the Board's actions. For example, Christy Rehm testified that her daughter is upset by comments of other students who contend that evolution is against their religion. 6:77-78 (Rehm).

259. Plaintiff Julie Smith explained how the Board's action have caused conflict in her own family and violated her religious beliefs:

Late in '04 my daughter came home from school, and I was discussing kind of what was going on in the district with her. And she looked at me and said, Well, Mom, evolution is a lie, what kind of Christian are you, anyway, which I found to be very upsetting. I asked her why she said that, and she said in school what they had been talking about or amongst her friends and what's going on. She seemed to be under the impression that as

a Christian, she could not believe that evolution was a science that, you know, was true. Well, it goes against my beliefs. I have no problems with my faith and evolution. They're not mutually exclusive."

6:38-39.

260. Other plaintiffs testified about discord in the community. Joel Leib, whose family has lived in Dover for generations, testified as follows:

"Well, it's driven a wedge where there hasn't been a wedge before. People are afraid to talk to people for fear, and that's happened to me. They're afraid to talk to me because I'm on the wrong side of the fence."

17:146-147.

261. Board members opposing the curriculum change and its implementation have been confronted directly. Casey Brown testified that, following her opposition to the curriculum change on October 18, Buckingham called her an atheist and Bonsell told her she would go to hell. 7:94-95; 8:32. Angie Yingling was coerced into voting for the curriculum change by board members accusing her of being an atheist and un-Christian. 15:95-97 (Sneath). Both Bryan Rehm and Fred Callahan have been confronted in the same way. 4:93-96 (B. Rehm); 8:115-16 (F. Callahan). Teachers have also been confronted with the same kind of hostility. 14:34-35 (Spahr).

262. Plaintiff Fred Callahan testified that the plaintiffs have been cast as "atheists" and intolerant" in the Dover community, and that is the reason why he brought this lawsuit as a plaintiff:

We've been called atheists, which we're not. I don't think that matters to the Court, but we're not. We're said to be intolerant of other views. Well, what am I supposed to tolerate? A small encroachment on my First Amendment rights? Well, I'm not going to. I think this is clear what these people have done. And it outrages me.

8:115-116.

U. The Dover Community Perceives the Board As Having Acted to Promote Religion

263. The Board's actions from June through October 18, 2004 were consistently reported in news articles in the two local papers, the *York Daily Record* and the *York Dispatch*. P44/P804, P45/P805, P46/P790, P47/P791, P51/P792, P53/P793, P54/P806, P55, P64, P682/P795, P683/P807, P679, P684/P809, P685/P796, P678/P797, and P686.

264. In fact, most of the plaintiffs did not attend the 2004 board meetings that preceded the curriculum change and became aware of the Board's actions only after reading about them in the local papers. Tammy Kitzmiller, Beth Eveland, Cindy Sneath, Steven Stough, and Joel Leib all first learned of the Board's actions regarding the biology curriculum and textbook from the news articles. 3:114 (Kitzmiller); 6:93-94 (Eveland); 15:77-78 (Sneath); 15:113-14 (Stough); 17:143 (Leib). Stough testified he read the *York Daily Record* and the *York Dispatch* every day, including on the Internet while he was away on vacation,

to follow the Board's actions relating to the change to the biology curriculum.

15:112-113; 16:4.

265. The news reports in the York newspapers were followed by numerous letters to the editor and editorials published in the same papers.

Plaintiffs provided the Court with summaries of the letters to the editor and editorials as part of exhibits P671, P672, P674, and P675.⁶

266. A review of the contents of the letters to the editor and editorials published in the York papers between June 2004 and September 2005 demonstrates that the Dover community perceives the Board as having acted to promote religion, with many citizens lined up as either for the curriculum change, on religious grounds, or against the curriculum change, on the grounds that religion should not play a role in public school science class.

(a) The *York Daily Record* published 139 letters to the editor regarding the Board's actions. P671. Eighty-six of those letters addressed the issues in religious terms. 16:18-20 (Stough).

⁶ The letters to the editor and editorials that are exhibits P671, P672, P674, and P675 are relevant to show that the effect of the Board's actions is the promotion or endorsement of religion and thus they should be admitted into evidence for the reasons set forth in the Memorandum of Law in Support of Admissibility of Editorials and Letters to the Editor in the York Daily Record and York Dispatch From the Period June 1, 2004 – September 1, 2005, which was filed on October 28, 2005.

(b) The *York Daily Record* published forty-three editorials regarding the Board's actions. P674. Twenty-eight of those editorials addressed the issues in religious terms. 16:22-23 (Stough).

(c) The *York Dispatch* published eighty-six letters to the editor regarding the Board's actions. P672. Sixty of those letters addressed the issues in religious terms. 16:24 (Stough).

(d) The *York Dispatch* published nineteen editorials regarding the Board's actions. P675. Seventeen of those editorials addressed the issues in religious terms. 16:25 (Stough).

267. The following excerpts are representative of the letters to the editor in the York newspapers in favor of the Board's actions on religious grounds:

(a) "Evolution is a theory while Christianity is truth and fact. . . . And yes, by all means teach intelligent design as a major part of the history of the great United States of America." P671, No. 39.

(b) "It's high time to put God back in our lives and inform others of what he has to offer. Try God. If you don't like him, Satan will gladly take you back." P671, No. 48.

(c) "God gave us the Bible as a guideline to live by, and in it, He also told us how he created the world." P672, No. 43.

(d) “No need to cloud your mind with science; just read Genesis, it will answer all your scientific questions.” P672, No. 47.

268. The following excerpts are representative of the letters to the editor in the York newspapers opposed to the Board’s actions on the grounds that religion should not play a role in public school science class:

(a) “Creationism and its cousin, intelligent design, are devoid of scientific facts...a science classroom is not the place for theology.” P671, No. 6.

(b) “As a concerned student and as a concerned human being, I say please and with all due respect, keep the religious out of my school because it has no place in the classroom.” P671, No. 50.

(c) “God is at home. God is many places. God is not a part of public schools.” P672, No. 18.

(d) “As scientists and educators, we urge the school board to exclude theism and the supernatural from their science curriculum.” P672, No. 25.

269. The following excerpts are representative of the editorials in the York newspapers in favor of the Board’s actions on religious grounds:

(a) “Yes, I believe that creationism should be taught in schools because evolution is only a theory and the Bible is God’s word which has stood the test of time.” P674, No. 4.

(b) “In the meantime, we, the church will carry the torch of faith until all the world, even science, recognizes God as the creator of everything that is.” P674, No. 30.

(c) “If intelligent design were taught: . . . Maybe the children wouldn’t mar their bodies with all kinds of permanent markings: which by the way in the Bible, Leviticus 19:28 says, ‘You shall not make any cuttings in your flesh for the dead, nor (tattoo) any marks upon you; I am the Lord.’” P674, No. 41.

270. The following excerpts are representative of the editorials in the York newspapers opposed to the Board’s actions on the grounds that religion should not play a role in public school science class:

(a) “The Dover school board needs to reverse the ‘intelligent design’ decision, or as I like to call it, ‘the design your own lawsuit that will gather national media attention, which will only hurt the children and the teachers, just for trying to put religion into a public school’ decision.” P674, No. 21.

(b) “ID is ‘modern’ creationism. Intelligent design is a veiled strategy to teach religion instead of science.” P674, No. 25.

(c) “Intelligent design is not a ‘theory’ but strictly a religious concept that may have its place in Sunday school and in the home – not in my high school biology class.” P675, No. 19.

V. THE CLAIM THAT BOARD MEMBERS ACTED FOR THE PURPOSE OF IMPROVING SCIENCE EDUCATION IS A PRETEXT TO HIDE THE TRUE MOTIVE FOR CHANGING THE BIOLOGY CURRICULUM, WHICH WAS TO PROVIDE STUDENTS WITH A RELIGIOUS ALTERNATIVE TO THE THEORY OF EVOLUTION

A. The Two Board Members Most Directly Involved in the Change to the Biology Curriculum Did Not Testify Truthfully, Consistently, or Believably

271. Both Bonsell and Buckingham lied at their January 3, 2005 depositions about their knowledge of the source of the donation for *Pandas*.

(a) At his deposition on January 3, 2005, Bonsell failed to disclose that he had received a check from Buckingham or that Buckingham had any involvement with collecting money to purchase *Pandas*. 33:31-36, 127-33 (Bonsell). At his deposition, when asked “who donated the books,” he initially replied “I don’t know.” 33:32. After follow-up questions, he supplied the name of his father, but no one else. 33:33. Counsel then asked him “how did you become aware that your father, as well as other individuals, intended to donate the *Pandas* book to the district?” 33:33. He provided no information about a check from Buckingham. Counsel asked him “who was the offer made to.” 33:33. His answer: “I’m not sure.” 33:33. Counsel asked “you have never spoken to anybody else who was involved with the donation?” 33:35. Answer: “I don’t know the other people.” 33:35. Question: “The only person you could have spoken to about the books was your father, correct?” 33:35. Answer: “Yes as far

as donating the books. I guess they offered to pay for the books, and they got the books, and they gave them to the school district.” 33:35. Question: “They offered to whom? How was the offer communicated?” 33:35. Answer: “That’s what I am saying. I am trying to think about exactly how it was done. I don’t remember exactly how it was said or done.” 33:35.

(b) This testimony was untruthful. Bonsell knew that he had received a check from Buckingham, and yet he failed to disclose it on January 3, despite repeated questions that should have elicited that information. Upon questioning by the Court, Bonsell admitted that Buckingham gave him the check to pass to Bonsell’s father and “this was money that he collected for donations to the book.” 33:127. Bonsell then admitted that he did not tell the truth at his deposition; he claimed that he “misspoke,” but he acknowledged that he should have identified Buckingham in response to Counsel’s direct questions. 33:129.

(c) Buckingham lied at both the trial and his deposition about the donation of *Pandas*. 30:38-55. He claims he did not take up a “collection” at his church, even though he stood in front of the pews on a Sunday before service, told the congregation about a need for donations to purchase *Pandas* as a supplemental text, and accepted donations totaling \$850. 30:38-40. His refusal to admit the obvious at trial is as untruthful as his failure to disclose the fact of the collection at his first deposition.

(d) At his first deposition, when asked “[d]o you know where that came from, who donated the money,” Buckingham answered “No I don’t.” 30:50-51. Counsel followed up by asking: “You have had no idea?” and Buckingham responded “I have thoughts but I don’t know.” 30:50-51. Question: “What are your thoughts?” 30:51. Answer: “I think it could have a tie to Alan Bonsell.” 30:51. Clearly Buckingham lied - - he should have said he knew that people at his church donated \$850.

(e) Buckingham compounded the lie in response to follow-up questions. He testified that although questions were raised at a board meeting, he was not curious and did not ask about the source. 30:51-52. Counsel then asked: “Why didn’t you ask? And he responded: Didn’t want to know.” Question: Why didn’t you want to know? Answer: Well, what purpose would it serve? Question: Well, because you’re a board member and the school district is part of your responsibility and maybe where these books came from would be something that you should know.” Answer: No, I think it was a wonderful gesture, and I didn’t concern myself with where they came from.” 30:52. Again, Buckingham clearly lied. He did not ask about the source of the donation for *Pandas* because he already knew the source, not because he did not want to know.

272. In addition to failing to tell the truth about the source of the donation of *Pandas*, Bonsell failed to tell the truth about other subjects, hid behind convenient memory lapses and failed to admit the obvious.

(a) Bonsell failed to tell the truth about his recollection of Charlotte Buckingham speaking at the meeting of the Board on June 14, 2004 at his January 3 deposition. He testified at trial that he recalled her speaking on that day, that she went on for a great length of time, that he felt uncomfortable gaveling her down because she was the wife of a board member, that she probably mentioned creationism, and that her comments were very religious in nature. 33:37 (Bonsell). And yet, when asked at his deposition whether he recalled Charlotte Buckingham making religious statements at the meeting, as reported in P54, a June 15, 2004 article from the *York Dispatch* by Heidi Bernhardt-Bubb, Bonsell said: “I remember Mrs. Buckingham coming up and talking at public comment, but I don’t remember what she said.” 33:38.

(b) Bonsell also failed to tell the truth about his interest in creationism. His counsel stated during the opening statement that Bonsell “had an interest in creationism. He wondered whether it could be discussed in the classroom.” 1:19. Yet in his testimony, Bonsell could not recall having any interest in creationism. 33:45-48. After numerous questions, the most he would say was that he “probably” had such an interest. 33:48.

(c) Bonsell claims not to recall raising the subject of creationism at either the 2002 or 2003 board retreat, even though documents show that he raised that subject. 33:44-45. At his deposition, he insisted he never raised creationism at any board meeting and at trial admitted that plaintiffs would have never learned that he raised the subject at those two board retreats if the documents had not been found. 33:53. He claimed that “we brought these papers forward,” referring to the two board retreat documents showing the word “creationism” next to his name in 2002 and 2003. 33:53. But he did not find those documents; Nilsen found those documents. 33:53-54. And Nilsen turned the documents over to counsel, who properly produced them. 33:54. Bonsell cannot claim credit in any way for candor with respect to those documents. The fact remains that if those documents had not been found his “interest in creationism” might never have been discovered.

(d) Bonsell insists that he is not the board member referred to in the Trudy Peterman memo (P26) who wanted to teach creationism on a 50/50 basis with evolution in or around March 2003. 33:52. And yet it is perfectly clear from the testimony of Michael Baksa, Bertha Spahr, and Barry Callahan, combined with P21, P25, P26, and P641, that Bonsell is the board member who wanted to teach creationism on a 50/50 basis with evolution in and around March 2003. *See supra* at ¶¶ 138-43.

273. Buckingham's testimony was riddled with inconsistencies, statements that do not ring true, and several proven lies, in addition to the lie discussed above about the source of the donation of *Pandas*.

(a) At his deposition, he initially denied that he made the statement that the 2002 edition of *Biology* was "laced with Darwinism." 29:36-37.

(b) Counsel forced him to admit that he advocated "creationism" in a statement to a television reporter for Channel Fox 43 in June 2004, but he continued to maintain the incredible position that he never used that word at any board meetings. 29:95-101; P145.

(c) At trial, he admitted that he opposed the purchase of *Biology* at the August 2, 2004 board meeting. 29:101-03. But at his deposition, he claimed he supported the purchase of *Biology* on August 2, 2004. 29:103-04.

(d) He claimed that he had not read any of the reports in the newspapers in June of 2004, even though both the *York Dispatch* and the *York Daily Record* were delivered to his door, and at one point the *York Daily Record* had an editorial praising him for his forthrightness in dealing with his Oxycontin problem and in advocating his views about creationism. 29:42, 87-89; P55.

(e) He testified that no one told him about the contents of the articles reported in the local papers in June 2004 except to say "you're in the paper again or the Board is in the paper again." 29:42-43. This was in conflict with his

initial deposition testimony where he testified that no one, not his wife, his friends, or the people at his church told him what had been reported in the papers. 29:62-63. He changed that testimony at his second deposition to say that “people did tell me that there were articles in the paper, but I didn’t look to see them, and I was just told that they were there.” 29:63-64. In his testimony at trial, he clarified his testimony yet again to say “I won’t say – people at the Church would come up and tell me there were things in the paper, and sometimes they would blurt out something in passing, but there was never any in depth discussion of what’s in an article. They might have just said ‘hey, they have you talking about creationism again.’ And we didn’t talk about that. We talked about intelligent design.” But later in his testimony, after reviewing the Fox 43 videotape (P145) of him talking about “creationism” he blurted out the following: “And what happened was when I was walking from my car to the building, here’s this lady and here’s a camera man, and *I had on my mind all the newspaper articles saying we’re talking about creationism*, and I had it in my mind to make sure, make double sure that nobody talks about creationism, we’re talking intelligent design. I had it on my mind, I was like a deer in the headlights of a car, and I misspoke. Pure and simple, I made a human mistake. 29:96. (Emphasis added). Questioned further, he admitted that he knew from talking with board members about the reports the Board discussing creationism. 29:96-97. Buckingham’s shifting testimony on this point and his

ultimate admission show that he lied at his deposition and again at trial, most likely to provide a rationale why he never denied all the reports in the newspapers. The Court can and should assume that he read all the stories in the newspapers delivered to his door and falsely claimed that he did not read them, because he knew they were true and he never denied them.

B. Other Witnesses for Defendants Also Failed to Testify Truthfully and Credibly

274. Board member Geesey also lied at trial. At her deposition, Geesey testified that she could not recall what theory Buckingham discussed as an alternative to evolution at the June 7 meeting and that she did not recall discussion of the words “intelligent design” at the June 14 meeting. 31:178-181. At trial, she changed her story completely and claimed the Board discussed intelligent design at the board meetings in June. 31:161.

275. As her explanation for this marked change in testimony, Geesey claimed that review of P56, plaintiff Eveland’s letter to the editor of the *York Sunday News* dated June 20, 2004, and P60, her letter to the editor of the *York Sunday News* dated June 27, 2004, refreshed her recollection that the Board discussed intelligent design at the June 2004 board meeting. 31:180, 199-201. This testimony is not credible for two reasons: First, both letters discuss creationism, not intelligent design. P56; P60. Geesey failed to explain how references to “creationism” could remind her that the Board had discussed

“intelligent design.” She obviously concocted this story. Second, she reviewed P60 at her deposition in January, and was questioned about it at that time. 31:203-204. So any claim that it refreshed her recollection in preparation for testifying at trial is false.

276. All of the board members who claimed that the Board never discussed “creationism” at the June board meetings -- in the face of all the evidence to the contrary -- should not be believed on this or any other points because their testimony is incredible. 29:68 (Buckingham); 31:152,161 (Geesey); 32:95, 100 (Bonsell); 33:53, 96-97 (Bonsell); 34:44-45 (Harkins).

(a) With the exception of Baksa, none of the defendants’ witnesses from the Board or administration admitted the truth about the board meetings in June 2004. They claim that the newspaper reports were false, and yet no one from the Board or administration ever sought a retraction or denied the reports in writing until after the plaintiffs filed the lawsuit, almost eight months later. 33:87-95 (Bonsell).

(b) The news reporters who covered the board’s meetings in the summer and fall of 2004 testified that they were never asked for a retraction or to correct an article. 30:91-93 (Bernhard-Bubb); 31:72-73, 90 (Maldonado).

(c) If the board members or administration wanted to contest statements in the newspapers, all they had to do was transcribe the tapes of the

meetings, which were available until July 12, 2004, long after the newspaper reports about the meetings on June 7 and 14. 33:106 (Bonsell); P63.

(d) The defendants cannot claim that they did not know about the newspaper reports -- Bonsell acknowledged the reports, Buckingham admitted the Board knew of the reports, and Nilsen admitted that he clipped and read the articles. 33:71-79 (Bonsell); 29:96-98 (Buckingham); 25:101-02 (Nilsen).

(e) Geesey took proactive measures when she thought she had been misquoted in a news story about the board meeting on October 18, 2004. Nilsen testified that she contacted him the next day “immediately” upon learning of the news reports she disputed and she asked him to develop a verbatim transcript of the meeting to prove that she did not say what had been reported. 24:113-14 (Nilsen); 31:172 (Geesey). The failure of any board member to do the same with respect to the June reports provides additional strong evidence that the news reports were true and that the board members who at trial denied those reports are not being truthful.

277. Bonsell, Buckingham, Harkins, and Nilsen molded their testimony to compliment each other. As discussed *supra* at 176(k), the York newspapers reported in June 2004 that Buckingham made a statement about a man dying on a cross 2,000 years ago at the June 14 board meeting. No one from the Board or administration ever denied this statement, even though they knew about

the reports in the newspapers, until January 3, 2005, when plaintiffs took the depositions of Buckingham, Bonsell, Harkins, and Nilsen. 33:87-95 (Bonsell). At the January depositions, each of these witnesses testified that the statement was made at a board meeting in the fall of 2003 or that they could not recall when it was made. 33:96-100 (Bonsell); 29:71-72 (Buckingham); 34:94-95 (Harkins), 25:110-111 (Nilsen). At trial, Bonsell changed his testimony on this point; at his deposition he claimed not to be sure when Buckingham made the statement but at trial he was certain Buckingham made it in 2003. 33:85, 97-100.

278. This testimony of all these witnesses flies in the face of all the evidence that Buckingham made that statement on June 14, 2004. P793/P53; P806/P54; 4:54-55 (B. Rehm); 6:73 (C. Rehm); 6:96 (Eveland); 7:26-27 (C. Brown); 8:63 (J. Brown); 8:105-06 (F. Callahan); 30:105, 107 (Bernhard-Bubb); 31:75, 78-79 (Maldonado); 12:126 (J. Miller); 13:85 (Spahr).

279. Bonsell, Buckingham, Harkins, and Nilsen simply cannot be believed. Their testimony that Buckingham did not make this statement on June 14, 2004 but instead made it in the fall of 2003 could not be true unless two reporters for different newspapers falsely reported that Buckingham made the statement in June 2004 and no less than eight other witnesses -- two science teachers, two former board members, and four plaintiffs -- all agreed to engage in a conspiracy to lie.

280. The evidence strongly suggests that it was Buckingham, Bonsell, Harkins, and Nilsen who colluded on an account that would mask the Board's religious purpose when they met to discuss their testimony on January 2, 2005 -- the night before their depositions. 25:107 (Nilsen). Plaintiffs took those depositions pursuant to a Court Order permitting the depositions on an expedited basis so that plaintiffs could decide whether to seek a temporary restraining order.

281. And when the depositions were concluded and the plaintiffs decided that the conflicts in the factual record prevented them from seeking a temporary restraining order, Nilsen congratulated the board members who had testified for the "great job" they had done testifying. 25:105-06 (Nilsen); P752. "The ACLU is doing a great job of putting a 'positive spin' on the situation, but I cannot help but feel gratified that they could not stop the implementation -- and you know if they could, they would have." P752. In other words, mission accomplished.

C. Bonsell and Buckingham and the Board Members Who Joined With Them Acted for the Purpose of Offering Students a Religious Alternative to the Theory of Evolution

282. As discussed above, Bonsell and Buckingham clearly intended to change the biology curriculum for the purpose of promoting religion and offering students a religious alternative to the theory of evolution, which offends their personal religious beliefs.

283. Indeed, Buckingham admitted that his primary goal was to provide students with an alternative to evolution to prevent them from accepting the theory of evolution as a fact. 29:39-40 (Buckingham). And Bonsell's concern about the teaching of evolution caused him to raise the subject of creationism at board retreats two years in a row and then meet with the teachers in the fall of 2003 to make sure they were not teaching common ancestry, a concept that offends his personal religious beliefs. *See supra* at ¶¶ 135-43, 154-55.

284. As the two leaders of the Board – the President and the Chair of the Board Curriculum Committee – Bonsell's and Buckingham's motive should be attributed to all the Board members who supported the October 18 resolution. Several of those board members – Geesey, Cleaver, and Harkins – apparently placed their trust completely in Bonsell and Buckingham because they have no basis to question the theory of evolution and they did not understand intelligent design when they voted for it. 31:181-82 (Geesey); 32:49-50 (Cleaver); 34:117-18, 124-25 (Harkins).

285. In addition, the evidence shows that other board members shared Buckingham's and Bonsell's religious motivation:

(a) Geesey wrote to the editor of *York Sunday News* on June 27, 2004, not to challenge the accuracy of a quotation attributed to Buckingham that “this country was founded on Christianity and our students should be taught as

such” but to endorse it. 31:158-60, 192-93; P60; P56. Geesey agreed with Buckingham that “our country was founded on Christian beliefs and principles.” She confirmed the gist of the Board’s debate on the subject by also writing that the district could “teach creationism without its being Christianity. It can be presented as a higher power.” 31:158-64 (Geesey); P60.

(b) Cleaver invited Charlotte Buckingham to a board meeting where she (Cleaver) intended to speak in favor of introducing prayer in schools, and Cleaver did speak in favor of introducing prayer. C. Buckingham Dep. (4/15/05) at 11-13.

286. All of the facts about the June 2004 board meetings prove that the board members who supported the October 18 resolution acted in a religiously-charged atmosphere for a clearly religious purpose.

D. Although the Defendants Claim to Have Acted for the Secular Purpose of Promoting Good Science Education, The Record Contains No Evidence That They Ever Had That Purpose

287. Several of the defendants’ witnesses claimed that the Board acted to promote good science education. And the defendants in their summary judgment submission claimed to have acted for a number of secular purposes. Defendants’ Motion for Summary Judgment at 22.

288. The defendants have never pointed to any evidence to suggest that they ever acted for any purpose other than the religious purpose Buckingham

articulated, namely, to provide students with a religious alternative to the theory of evolution.

289. On the contrary, all the evidence suggests that the Board did not have the purpose of promoting good science education:

(a) As noted *supra* at 234 the Board engaged in no discussion about the resolution or how it would promote good science education or any other secular purpose.

(b) Other than a legal presentation by the Discovery Institute, the Board received no information or presentation about intelligent design. 33:112 (Bonsell); 30:23 (Buckingham).

(c) Harkins, Cleaver, and Geesey did not understand intelligent design when they voted on it, as discussed *supra* ¶¶ 235, 240-41 – and neither did Buckingham. All he could say about intelligent design is that “intelligent design teaches that something, molecules or amoeba possibly, evolved into the complexities of life we have now.” 29:11-12 (Buckingham).

(d) Neither Bonsell or Buckingham ever spoke to the board members about why they should support the resolution. 33:112 (Bonsell); 30:23 (Buckingham).

(e) No materials were made available to the Board to assist in its decision other than a book and a video from the Discovery Institute and there is no evidence that any board members reviewed them. 33:112-113 (Bonsell).

(f) No one on the Board or in the administration ever contacted National Academy of Sciences, the American Association for the Advancement of Science, the National Science Teachers' Association, the National Association of Biology Teachers, or any other organization for information about intelligent design or science education. *See supra* at ¶ 239.

(g) Buckingham in his dealings with the Discovery Institute and TMLC never sought any advice about science education – he only sought legal advice. 29:133-34; 30:12-14 (Buckingham). This says everything about his motive and the motive of the other board members who supported the resolution – if they had truly acted to promote science education there should be some evidence they sought out *scientific* advice, not *legal* advice, about whether intelligent design should be included in the curriculum.

(h) The Board ignored the advice of the school district science teachers, the Board's only resource on questions of science education. The science teachers did not want to mention intelligent design. 30:31-32 (Buckingham).

(i) Bonsell and Buckingham tried to hide the source of the donation of *Pandas*. *See supra* at ¶ 271.

(j) The Board limited the teaching of evolution to exclude common ancestry, speciation, and macroevolution, all of which conflict with a literal reading of the Bible. *See supra* at ¶ 233.

290. Given the absence of any evidence that the Board acted to promote good science education or for any other secular purpose, and the plethora of evidence that suggests that the Board in fact had no such secular purpose but instead intended to promote a religious alternative to the theory of evolution, the Court must conclude that the secular purposes claimed by the Board amount to a pretext for the Board's real purpose, which was to promote religion.

E. Dover's Curriculum Change Does Not Improve Science Education

291. While defendants asserted various alleged interests to justify their intelligent-design policy in their opening statement, 1:24-27, the evidence shows that the board never discussed any interests to justify the curriculum change.

292. Furthermore, the alleged interests justifying the policy, identified in the opening statement, 1:24-27, were unsupported by any testimony from experts in the field of science education or even just general education, as defendants withdrew both of their education experts, Warren Nord and Dick Carpenter, during the trial.

293. Consequently, the testimony of plaintiffs' science-education expert, Dr. Brian Alters, is un rebutted. Additionally, Dr. Miller, as a high-school-biology-textbook author, 1:40-47, and Dr. Padian, who has a masters in education, taught middle-school science for three years and has worked on California's science-curriculum standards and textbook-review committee, 16:43-44, 59, both of whom have also been science teachers at the university level for several decades, are qualified by virtue of their experience in these areas to comment on the Dover policy.

294. Dr. Brian Alters testified for plaintiffs as an expert in the field of science education, particularly the teaching of evolution. Dr. Alters, who has joint appointments at McGill University and Harvard University, has published numerous refereed articles and other writings on science education, has extensive experience in training science educators at all levels, has substantial responsibility for grant programs in the United States and Canada affecting the teaching of science, and has interviewed over a thousand high-school students to understand the how religious views can affect science education. 14:50-68 (Alters); P182 (curriculum vitae). Dr. Alters has also authored several textbooks about how to teach evolution at both the college and high-school levels. 14:62-67. In short, Dr. Alters is eminently qualified to proffer opinions on science education generally, and more specifically about teaching evolution.

295. Pedagogy is the art and science of teaching. 14:70-71. Good pedagogy entails not promoting misconceptions. 14:71. According to Dr. Alters, “There would hardly be anything worse for a science teacher to do than engender needless misconceptions.” *Id.*

296. Both facets of the Dover policy, *i.e.*, (a) undermining the status of evolutionary theory and (b) promoting intelligent design as a scientific alternative, engender misconceptions because both propositions are inconsistent with the positions taken by every scientific and science-education association in the country.

297. Dr. Alters echoed Dr. Miller’s testimony that every major scientific association opposes efforts both to undermine evolution and to promote intelligent design as a scientific alternative. 14:75-78.

298. Dr. Alters testified that every *science-education* organization has taken a position mirroring those of the scientific associations, namely, opposing efforts to diminish the status of evolution and to promote intelligent design as a scientific alternative. For example, the largest science-teachers’ organization in the country, the National Science Teachers Association (NSTA), has taken the position that “‘creation science’ or related concepts, such as so-called ‘intelligent design,’ ‘abrupt appearance,’ and ‘arguments against evolution’” should not be taught in science class. P183; 14:90-91. Moreover, NSTA has

decried efforts to “diminish” the teaching of evolution through political and community pressure and intimidation. P183; 14:81-85. Specifically, NSTA has stated that requiring teachers to teach that evolution is “only a theory” is “bad educational policy” that will cause “science literacy itself [to] suffer.” P183, at 4. The country’s largest biology-teachers’ organization, the National Association of Biology Teachers (NABT) has taken the same position. P186. Specifically, NABT has said that “intelligent design theory” is “outside the realm of science and not part of a valid science curriculum.” *Id.* Dr. Alters was unaware of any science-education groups that support Dover’s policy. 14:99. In sum, Dover’s policy finds no support among any scientific or science-education organizations.

299. A further reflection that Dover’s policy is unsupported by the scientific or the science-education community can be found in the fact that the only high-school biology texts that promote teaching intelligent design are distributed by religious publishers: the Christian Liberty University Press and Bob Jones University Press. 14:106-107 (Alters). To his knowledge, neither is used in any public school. *Id.* Dr. Alters is not aware of any college-level biology textbook that teaches evolution as itself controversial, or that supports the teaching of intelligent design. Those that mention intelligent design teach students that it is not science. 14:108-109 (Alters).

300. Contrary to defendants' claim, the Pennsylvania academic standards for teaching science do not support the Dover policy. The Pennsylvania standards require that science teaching be consistent with the consensus in the scientific community. P210; 14:102-103 (Alters). The Pennsylvania standards treat evolution like other scientific theories, and do not single it out for particular scrutiny or treatment as controversial. 14:104-105 (Alters). The Pennsylvania standards do not call for teaching intelligent design. Indeed, the standards require that "theories and laws" must "have been verified by the scientific community," a test that would directly prohibit introducing intelligent design, since every scientific and science-education organization opposes it. P210 at 4; 14:102-105 (Alters). Finally, the requirement in the standards that students be able to "[c]ritically evaluate the status of existing theories" does not support the Dover policy. It does not single out evolution for special, critical treatment, and it certainly does not promote intelligent design. 14:104-05. Consequently, the Pennsylvania academic standards do not justify or support the Dover policy.

301. In Dr. Alters' view, the Dover curriculum change and the four-paragraph statement promulgated to implement it do not promote good science education. 14:109-20. The statement read to students singles out evolution for special and negative treatment. It misleads students about the status of evolution by asserting that it is not a fact and by suggesting that evidence for evolution is

controversial. Evolution is “extraordinarily well accepted” by the scientific community, thereby making the second paragraph misleading. Defendants philosophy expert, Stephen Fuller, agreed that telling students that evolution is a theory, not a fact, is “misleading.” Fuller Dep, at 111. The third paragraph implies that intelligent design suffers from none of these deficiencies; instead, without any reference to the consensus *against* teaching intelligent design in the scientific and education community, students are referred to *Pandas*, which advocates intelligent-design creationism. 14:109-117 (Alters). The curriculum and statement engender misconceptions in students about science education and generally misprepare students for further science education. 14:117 (Alters). The engendering of misconceptions is poor pedagogy. 14:118-19.

302. Professor Ken Miller expressed very similar opinions about the Dover statement. As a prominent high-school-textbook author, Dr. Miller explained that, in his opinion, the policy misleads students about the status of evolution as a scientific theory and that there is simply no scientific basis for introducing students to intelligent design. 2:47-55 (Miller). It “drives a wedge” between students and the practice of science by encouraging great skepticism about science and scientists. 2:53-54. Similarly, Dr. Padian believes the statement is bound to confuse students about science generally and evolution in particular. In his blunt words, it makes them “stupid.” 17:48-52 (Padian).

303. Furthermore, the phrasing and juxtaposition of the four paragraphs augments students' perception that evolution is suspect and that the school endorses intelligent design. The first paragraph tells students that they will learn about evolution because state law mandates it. 2:47 (Miller). The second paragraph will be interpreted as "we don't really believe this stuff (evolution), it's a theory not a fact. There are gaps. There's no evidence. We're very skeptical of this." *Id.* By contrast, the third paragraph discussing intelligent design contains none of the negative and denigrating language attached to evolution, creating the impression that the school supports it. 2:47-48. And the fourth paragraph encourages students to discuss all this with their parents and that, by the way, they are learning about evolution only because it is required by Pennsylvania law. 2:48. Since the lesson on evolution is the only time that students will hear such a disclaimer or warning, the obvious reaction is that this subject matter is suspect. *Id.* Dr. Alters advanced a similar analysis. 14:109-17.

304. More significantly, Dr. Alters and Dr. Miller agreed that introducing intelligent design invites religion into the science classroom. This was Dr. Alters' "biggest concern." 14:143. Introducing intelligent design sets up what will be perceived by students as a "God-friendly" science, the one that mentions an intelligent designer, and that other science, evolution, that takes no position on religion. 14:144-45. Injecting religious views into the classroom and thus

encouraging students to have to take sides about which “science” to accept is “probably the worst thing I’ve heard of in science education.” 14:145.

305. Dr. Miller, who in addition to his many other accomplishments wrote the trade-publication, *Finding Darwin’s God: A Scientist’s Search for Common Ground Between God and Evolution*, testified that students would “get the message in a flash. ... You got your God consistent theory, and over on the other side, you got your atheist theory, which is evolution. It produces a false duality. And it tells students ... quite explicitly, choose God on the side of intelligent design or choose atheism on the side of science.” 2:54-55. Introducing such a religious conflict into the classroom is “very dangerous” because it forces students to “choose between God and science,” not a choice schools should be foisting on students. 2:55.

306. Dr. Padian raised other potential religious implications attending the introduction of intelligent design to students. Students are likely to ask whether the inability of animals to evolve naturally points to the imperfection of the creator. 17:50. What does it say about the Creator’s ability to intervene in natural processes, and if he (or she or they or it) has that capability why don’t they intervene more often to alleviate pain and suffering in the world. *Id.* In other words, intelligent design invites theological questions, something which is inappropriate for a science class. 17:51.

307. Dr. Alters rejects Dover's explanation that its curriculum change and the statement implementing it are not teaching. He finds, to the contrary, that substantive misconceptions about the nature of science, evolution, and intelligent design are conveyed to students; in his words, the statement "facilitates learning." 14:120-123 (Alters). The statement is a "mini lecture," that may not be good teaching, but is nonetheless a form of teaching. 15:57-59.

308. According to Dr. Alters, the circumstances surrounding the introduction of the evolution unit in ninth grade biology, including the reading of the statement by an administrator, the opportunity that students have to opt-out of hearing that reading, and the text of the statement itself, all heighten the students' learning that evolution is controversial and that intelligent design is being promoted by the district. 14:123-125.

309. Dr. Alters also testified that the school's ban on any discussion of intelligent design, beyond the reading of the statement, by students and teachers gives students the impression that intelligent design is a "secret science." 14:126. Pedagogically, introducing students to a concept and then prohibiting discussion about it is "absurd." 14:127. Defendants' philosophy (but not education) expert, Stephen Fuller, agreed that the ban on discussion undermines the Dover policy's pedagogical value. 28:14.

310. In Dr. Alters' view, the curriculum change and its implementation do not enhance critical thinking, but rather stifle it. 14:127-129 (Alters). It confuses students and engenders misconceptions about the very nature of science. 14:127-32, 142-43.

311. In light of the defendants' failure to present any evidence by Dover officials identifying a secular justification for the policy beyond just "balance the teaching of evolution," and the absence of any expert testimony rebutting plaintiffs' science-education experts who condemned the policy as indefensible from either a scientific or pedagogical perspective, this Court finds that the defendants did not have a valid secular purpose for the intelligent-design policy.

VI. PROPOSED ULTIMATE FINDINGS OF FACT

312. Intelligent design is a religious, non-scientific concept.

313. Intelligent design promotes the religious belief that a supernatural actor intervened in natural history and acted directly to design and create living things.

314. Intelligent design is not only religious, it is sectarian. It promotes the particular religious views held by some but not all believers in Christianity.

315. Intelligent design is a form of creationism, but one that does not expressly identify the designer and creator of living things as the God of the Bible. By description, if not label, however, the intelligent designer – also referred to by intelligent-design proponents as the intelligent agent, intelligent actor, master intellect – is obviously God.

316. The textbook *Of Pandas and People* was prepared as a creationist textbook. In drafts of the book, the words “intelligent design” were inserted in place of “creation” and its cognates in numerous places throughout the text following the Supreme Court’s 1987 decision in *Edwards v. Aguillard*, without any meaningful change in content.

317. Intelligent design is part of a national religious and cultural-renewal strategy, as evidenced by the Wedge Document and statements by leaders of the intelligent-design movement, such as Phillip Johnson and William Dembski.

318. Intelligent design posits a supernatural actor as the source of life and the complexity of biological life.

319. Intelligent design does not qualify as science for a variety of reasons:

(a) It violates the ground rules of science, as they have been practiced for hundreds of years since the scientific revolution, because it i) posits a

supernatural actor as an explanation for natural phenomena and ii) it cannot be tested.

(b) It has been universally rejected as science by the scientific community.

(c) It finds no support in the peer-reviewed scientific literature.

(d) It is not the subject of scientific testing and research.

(e) It makes no predictions and offers no explanations other than “the intelligent designer did it.”

(f) It is primarily a negative argument against evolution.

(g) The arguments made against evolution distort and misrepresent the real state of scientific knowledge.

320. Intelligent-design proponents seek to advance intelligent design not to explain the natural world, but as a means of challenging accepted scientific knowledge that they believe conflicts with their religious values.

321. Board members expressed a desire to teach creationism in science class as an alternative to the scientific theory of evolution on numerous occasions, including public meetings in June 2004.

322. Statements attributed to board members and administrators in June 2004 by the *York Dispatch* and *York Daily Record* were in fact said by those board members and administrators, as reported.

323. Witnesses who testified on behalf of the defendants did not testify truthfully or accurately about the June 2004 school board meetings and about other events, statements, and circumstances relating to the change to the biology curriculum.

324. The lack of truthfulness by some witnesses for the defendants, including board members, demonstrates an intent to conceal an improper religious purpose.

325. Board members who supported the October 18, 2004 board resolution to change the biology curriculum and the February 2005 newsletter wanted to promote to students at Dover High School and throughout the Dover community a religious alternative to the scientific theory of evolution.

326. Board members ensured that the teaching of evolution at Dover High School would be limited to propositions that did not conflict with their religious beliefs, and prevented the teaching of key aspects of the theory that did conflict with their religious beliefs, such as macroevolution, speciation, and common ancestry.

327. Board members who supported the October 18, 2004 resolution and the February 2005 newsletter sought to denigrate the scientific theory of evolution and promote intelligent design as an alternative because evolution conflicts with their personal religious beliefs.

328. The Board had no secular purpose for changing the biology curriculum.

329. There can be no secular purpose for promoting a religious, non-scientific proposition like intelligent design.

330. Prior to passage of the October 18, 2004 resolution, the Board did not discuss the substance of intelligent design or how promoting it and denigrating the scientific theory of evolution would promote good science education or any other secular purpose.

331. The secular purpose(s) advanced by defendants' counsel as the supposed grounds for the Board's actions are not supported by the evidence and constitutes a pretext to mask the Board's religious purpose.

332. Prior to passage of the October 18, 2004 resolution, the Board did not engage in any investigation or ask any questions that would be expected if its purpose was to improve science education, but instead it rejected the strongly-held views of the district's science teachers, did not consult any other persons with expertise in science education, and relied solely on legal advice from two

organizations with religious, cultural, and legal missions, *i.e.*, the Discovery Institute and the Thomas More Law Center.

333. A reasonable objective observer would perceive intelligent design as endorsing a particular religious belief.

334. A reasonable objective observer would perceive the intelligent designer of the intelligent-design movement to be God.

335. A reasonable objective observer would perceive intelligent design as the most recent manifestation of creationism.

336. A reasonable objective observer would perceive that the Dover Area School District Board of Directors devised its intelligent-design policy, including the change to the biology curriculum, the four-paragraph statement read to students and the newsletter sent to the entire Dover community, because it had religious objections to the scientific theory of evolution and wanted to provide students with a religious, or “God-friendly” alternative.

337. A reasonable objective observer would perceive intelligent design, as described in *Of Pandas and People* and the February 2005 newsletter published by the Board, as referring to God and promoting a particular religious view.

338. A reasonable objective observer would perceive the statement read to students in biology class about intelligent design as religious because the

science teachers will not read the statement on ethical grounds, students are told intelligent design should be pursued at home, and the students are not permitted to ask questions about intelligent design or discuss it in class.

339. A reasonable objective observer would perceive *Of Pandas and People* to be a creationist textbook.

340. The change to the biology curriculum, and the statement read to students, do not enhance science education, and, in fact, harms science education by about how science works, about the status of evolution in the scientific community, and by teaching them that the religious argument of intelligent design is scientific.

341. The change to the biology curriculum harms students by placing science education and scientific knowledge in conflict with religious beliefs.

342. The change in biology curriculum harms students by favoring a particular religious viewpoint, with which some students and their families may disagree.

343. The defendants' actions have had a divisive effect on the Dover community, with many members taking sides in favor of or in opposition to the Board's actions because they either favor or opposed religion in public schools.

344. The plaintiffs, parents of children in the Dover schools, have been harmed by the Board's actions because they interfere or threatens to interfere with their right to instruct their children on matters of faith and religion and because they have been cast as outsiders in the Dover community because they oppose the Board's actions.

VII. PLAINTIFFS' PROPOSED CONCLUSIONS OF LAW

345. The Court has jurisdiction over the parties and the controversy.

346. Plaintiffs have standing to bring their claims.

347. The curriculum change adopted by defendants endorses religion, in violation of the Establishment Clause of the First Amendment to the United States Constitution, 42 U.S.C. § 1983, and Art. I, Sec. 3 of the Pennsylvania Constitution.

348. Defendants' purpose in adopting the curriculum change was to introduce a religious view of biological origins into the biology course, in violation of the Establishment Clause, 42 U.S.C. § 1983, and Art. I, Sec. 3 of the Pennsylvania Constitution.

349. The effect of the defendants' actions in adopting the curriculum change was to impose a religious view of biological origins into the biology course, and broadcast that view to the Dover community in violation of the

Establishment Clause, 42 U.S.C. § 1983, and Art. I, Sec 3 of the Pennsylvania Constitution.

350. So-called “intelligent design” is merely a sanitized version of “creationism” or “creation science,” and as such may not be taught in public schools, consistent with the Establishment Clause of the First Amendment and Art. I, Sec. 3 of the Pennsylvania Constitution.

351. In order to preserve the separation of church and state mandated by the Establishment Clause, and Art. I, Sec. 3 of the Pennsylvania Constitution, it is necessary and appropriate to enter an order enjoining defendants from implementing their biology curriculum change, from requiring teachers to denigrate or disparage the scientific theory of evolution, and from requiring teachers to refer to an alternative theory known as “intelligent design.” It is also necessary and appropriate to issue a declaratory judgment that plaintiffs’ rights under the Constitutions of the United States and the Commonwealth of Pennsylvania have been violated by defendants’ actions.

352. The actions of the defendants in violation of Plaintiffs’ civil rights as guaranteed to them by the Constitution of the United States and 42 U.S.C. § 1983 subjects defendants to liability not only with respect to injunctive and declaratory relief, but also for nominal damages and the reasonable value of

plaintiffs' attorneys' services and costs incurred in vindicating plaintiffs' constitutional rights.

Respectfully submitted,

/s/ Eric Rothschild

Eric Rothschild (PA 71746)
Stephen G. Harvey (PA 58233)
Alfred H. Wilcox (PA 12661)
Christopher J. Lowe (PA 90190)
Stacey I. Gregory (PA 90290)
Pepper Hamilton LLP
3000 Two Logan Square
18th & Arch Streets
Philadelphia, PA 19103
(215) 981-4000
rothschilde@pepperlaw.com
harveys@pepperlaw.com
wilcoxa@pepperlaw.com
lowec@pepperlaw.com
gregorys@pepperlaw.com

Thomas B. Schmidt, III (PA 19196)
Pepper Hamilton LLP
200 One Keystone Plaza
North Front and Market Streets
P.O. Box 1181
Harrisburg, PA 17108
(717) 255-1155
schmidt@pepperlaw.com

Witold J. Walczak (PA 62976)
ACLU of Pennsylvania
313 Atwood Street
Pittsburgh, PA 15213
412-681-7864
vwalczak@aclupgh.org

Paula K. Knudsen (PA 87607)
ACLU of Pennsylvania
105 N. Front St., Suite 225
Harrisburg, PA 17101
(717) 236-6827
pknudsen@aclupa.org

Ayesha Khan (adm. *phv*)
Richard B. Katskee (adm. *phv*)
Alex J. Luchenitser (adm. *phv*)
Americans United for Separation of
Church and State
518 C St., NE
Washington, DC 20002
(202) 466-3234
akhan@au.org
katskee@au.org
luchenitser@au.org

Attorneys for plaintiffs:
TAMMY KITZMILLER; BRYAN AND
CHRISTY REHM; DEBORAH
FENIMORE AND JOEL LIEB; STEVEN
STOUGH; BETH EVELAND; CYNTHIA
SNEATH; JULIE SMITH, AND
ARALENE ("BARRIE") D. AND
FREDERICK B. CALLAHAN

Dated: November 23, 2005

Exhibit A

INDEX OF HEARING TRANSCRIPT VOLUMES

VOLUME	DATE	TRIAL DAY	SESSION	WITNESS
1	September 26, 2005	Day 1	Morning	Kenneth R. Miller (Direct)
2		Day 1	Afternoon	Kenneth R. Miller (Direct and Cross)
3	September 27, 2005	Day 2	Morning	Kenneth R. Miller (Cross, Redirect) Tammy Kitzmiller (Direct, Cross) Aralene Callahan (Direct)
4		Day 2	Afternoon	Aralene Callahan (Direct and Cross) Bryan Rehm (Direct, Cross and Redirect)
5	September 28, 2005	Day 3	Morning	Dr. Robert Pennock Ph. D. (Direct, Cross, Redirect and Recross)
6		Day 3	Afternoon	Julie Smith (Direct, Cross) Christy Rehm (Direct, Cross) Beth Eveland (Direct, Cross)
7	September 29, 2005	Day 4	Morning	Carol Brown (Direct)

VOLUME	DATE	TRIAL DAY	SESSION	WITNESS
8		Day 4	Afternoon	Carol Brown (Cross, Redirect and Recross) Jeffrey Brown (Direct, Cross, Redirect and Recross) Frederick Callahan (Direct and Cross)
	September 30, 2005			No Morning Session
9		Day 5	Afternoon	John F. Haught, Ph. D. (Direct and Cross)
10	October 5, 2005	Day 6	Morning	Barbara Forrest, Ph. D. (Direct)
11		Day 6	Afternoon	Barbara Forrest, Ph. D. (Direct and Cross)
12	October 6, 2005	Day 7	Morning	Barbara Forrest, Ph. D. (Cross, Redirect and Recross) Jennifer Miller (Direct)
13		Day 7	Afternoon	Jennifer Miller (Cross, Redirect and Recross) Bertha Spahr (Direct)
14	October 12, 2005	Day 8	Morning	Bertha Spahr (Cross) Brian Alters, Ph. D. (Direct)

VOLUME	DATE	TRIAL DAY	SESSION	WITNESS
15		Day 8	Afternoon	Brian Alters (Cross, Redirect and Recross) Cynthia Sneath (Direct and Cross) Steven Stough (Direct)
16	October 14, 2005	Day 9	Morning	Steven Stough (Direct and Cross) Kevin Padian, Ph. D. (Direct)
17		Day 9	Afternoon	Kevin Padian, Ph.D. (Direct, Cross and Redirect) Joel Leib (Direct, Cross, Redirect and Recross)
18	October 17, 2005	Day 10	Morning	Professor Michael J. Behe (Direct)
19		Day 10	Afternoon	Professor Michael J. Behe (Direct)
20	October 18, 2005	Day 11	Morning	Professor Michael J. Behe (Direct)
21		Day 11	Afternoon	Professor Michael J. Behe (Direct and Cross)
22	October 19, 2005	Day 12	Morning	Professor Michael J. Behe (Cross)
23		Day 12	Afternoon	Professor Michael J. Behe (Cross, Redirect and Recross)

VOLUME	DATE	TRIAL DAY	SESSION	WITNESS
	October 20, 2005			No Morning Session
24		Day 13	Afternoon	Richard Nilsen (Direct)
25	October 21, 2005	Day 14	Morning	Richard Nilsen (Direct and Cross)
26		Day 14	Afternoon	Richard Nilsen (Redirect and Recross) Michael Richard Baksa (Direct)
27	October 24, 2005	Day 15	Morning	Professor Steven William Fuller (Cross, Redirect and Recross)
28		Day 15	Afternoon	Professor Steven William Fuller (Cross, Redirect and Recross)
29	October 27, 2005	Day 16	Morning	William Buckingham (Direct as on cross)
30		Day 16	Afternoon	William Buckingham (Direct as on cross) Heidi Bernhard - Bubb (Cross)
31	October 28, 2005	Day 17	Morning and Afternoon	Heidi Bernhard - Bubb (Cross and Redirect) Joseph S. Maldonado (Direct and Cross) Heather Geesey (Direct, Cross, Redirect and Recross)

VOLUME	DATE	TRIAL DAY	SESSION	WITNESS
				Michael Baksa (Direct)
32	October 31, 2005	Day 18	Morning	Jane Cleaver (Direct, Cross and Redirect) Alan Bonsell (Direct)
33		Day 18	Afternoon	Alan Bonsell (Direct and Cross)
34	November 2, 2005	Day 19	Morning	Alan Bonsell (Redirect and Recross) Sheila Harkins (Direct, Cross, Redirect and Recross)
35		Day 19	Afternoon	Michael Baksa (Direct and Cross)
36	November 3, 2005	Day 20	Morning	Michael Baksa (Cross, Redirect and Recross) Robert Linker (Direct, Cross, Redirect and Recross)
37		Day 20	Afternoon	Professor Scott Minnich (Direct, Cross)
38	November 4, 2005	Day 21	Morning	Professor Scott Minnich (Direct, Cross)
39		Day 21	Afternoon	Closing Arguments

CERTIFICATE OF SERVICE

I, Eric Rothschild, hereby certify that on November 23, 2005, I caused true and correct copies of the foregoing Plaintiffs' Finding of Fact and Conclusions of Law, and supporting Memorandum of Law, to be served upon the following counsel via electronic filing, electronic mail and Federal Express mail, postage prepaid to:

Richard Thompson
Robert J. Muise
Patrick T. Gillen
THOMAS MORE LAW CENTER
24 Frank Lloyd Wright Drive, P.O. Box 393
Ann Arbor, Michigan 48106

and via electronic mail to:

Thomas B. Schmidt, III
Pepper Hamilton LLP
200 One Keystone Plaza
North Front and Market Streets, P.O. Box 1181
Harrisburg, PA 17108

Witold J. Walczak
ACLU of Pennsylvania
313 Atwood Street
Pittsburgh, PA 15213

Paula K. Knudsen
ACLU of Pennsylvania
105 N. Front St., Suite 225
Harrisburg, PA 17101

Ayesha Khan
Richard B. Katskee
Alex J. Luchenitser
Americans United for Separation of Church and
State
518 C St., NE
Washington, DC 20002

Ron Turo
Turo Law Offices
29 South Pitt Street
Carlisle, PA 177013

/s/ Eric Rothschild

ERIC ROTHSCHILD